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1.

THE INFLUENCE OF INTRAVENOUS INJECTIONS OF NEO-SALVARSAN ON THE ARTERIAL BLOOD PRESSURE.*

By H. D. ROLLESTON, M.D., F.R.C.P.,

Surgeon-General (Temporary), R.N.,

CONSULTANT PHYSICIAN TO THE ROYAL NAVY, ROYAL NAVAL HOSPITAL, HASLAR; SENIOR PHYSICIAN, ST. GEORGE'S HOSPITAL.

The blood pressure was investigated in a hundred consecutive cases in which neo-salvarsan was given intravenously for syphilis, in almost all in the secondary stage. The patients were in the Royal Naval Hospital, Haslar, under the care of Staff Surgeon J. S. Dudding, R.N., who kindly gave me every facility for examining them. Their average age was 24 years, and except for twelve who were 30 years of age and over, and for six under 20, were all between 20 and 30 years of age. The amount of neo-salvarsan varied between 0.9 and 0.6 gram. The blood pressure (systolic and diastolic) was taken (i) on one or more days before the injection was given, (ii) about seven hours after the injection, and (iii) on three or sometimes four subsequent mornings. In 19 of these cases the blood pressure was also taken during the intravenous injection of neo-salvarsan. Included in the 100 cases were 12 cases in which the blood pressure was investigated in connexion with both first and second injections of neo-salvarsan—usually at a month's interval. Mercer's sphygmomanometer, with an arm-cuff of 14 cm., was used. The auscultatory method was employed, the maximum systolic pressure being estimated as the mean between the points where the auscultatory sound disappeared and reappeared, and the diastolic pressure at the time of the so-called fourth phase, where the intensity of the auscultatory sound suddenly diminishes. I took all the blood pressure estimations myself, so that errors from more than one personal equation were avoided.

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[279/15]

Comparison of the Blood Pressure before and after the Intravenous Injection of Neo-salvarsan.

In every case the average of the blood pressure estimations taken before injection was compared with the average of the blood pressure estimations taken on the days subsequent to the injection. The blood pressure estimations taken seven hours after the injection were not included here, and are dealt with below. In 77 out of the 100 cases the intravenous injection was followed by a fall in both the systolic and diastolic pressures. The average fall of the systolic pressure was 16 mm. Hg, and of the diastolic pressure 13 mm. Hg. Out of the 23 remaining cases there were 8 in which both the systolic and diastolic pressures were higher after than they were before the injection, the average increase in both the pressures being 11 mm. Hg; 8 cases in which the systolic pressure was higher after than before injection (average increase 5.2 mm. Hg), while the diastolic pressure was lower after than before injection (average fall 6.5 mm. Hg); 6 cases in which the diastolic pressure after was higher than before injection (average increase 4.5 mm. Hg), while the systolic pressure after was lower than before injection (average fall 8 mm. Hg); and one case in which both the systolic and diastolic pressures were the same before and after injection. By arranging these figures rather differently it is seen that after injection there is

A fall in both the systolic and diastolic pressures in	77
A fall in the systolic alone in	6
Making a fall in the systolic pressure in	83
A fall in the diastolic alone in	8
Making a fall in the diastolic pressure in	85
A rise in both the systolic and diastolic pressures in	8
A rise in the systolic pressure alone in ...	8
Making a rise in the systolic pressure in	16
A rise in the diastolic pressure alone in ...	6
Making a rise in the diastolic pressure in	14
No change in either the systolic or diastolic pressure in	1

It is therefore clear that the average of the blood pressure estimations taken after injection is usually lower than that before injection. In the systolic blood pressure there was a fall in 83 cases, as compared with a rise in 16, or in the proportion of 5 to 1. The average fall in the systolic pressure was 15.4 mm. Hg. In the diastolic blood pressure there was a fall in 85 cases, as compared with a rise in 14, or in the proportion of 6 to 1. The average fall in the diastolic pressure was 12.4 mm. Hg. The fall was therefore slightly less in the diastolic than in the systolic blood pressure. But before assuming that the fall in blood pressure is the direct result of the injection of neo-salvarsan, two factors must be taken into account:

1. That the patients were kept in bed from the day before the injection until some days after, and that the blood pressure estimations were nearly always taken early in the mornings of the days subsequent to the injection

when the patients were in bed, even though they sometimes got up later in the day. In some cases the last blood pressure was taken when the patient was up, and in these cases the pressure was usually higher than those taken in bed. The fall of blood pressure may, therefore, have been partly due to rest in bed.

2. Mental excitement, although guarded against as far as possible, may have raised the blood pressures before injection; and hence the fall in the average of the blood pressure estimations taken after injection may have been more apparent than real.

In the light of these considerations, it does not appear that the fall in blood pressure was necessarily due to the intravenous injection of neo-salvarsan. At any rate intravenous injection of neo-salvarsan does not tend to raise the blood pressure on the following days.

Comparison between the Blood Pressure taken before and that taken Seven Hours after the Intravenous Injection of Neo-salvarsan.

In 55 out of 99 cases both the systolic and the diastolic pressures were lower seven hours after the intravenous injection of neo-salvarsan than they were before; the average fall of the systolic pressure was 16 and of the diastolic pressure 10 mm. Hg. In 16 of these 55 cases the temperature rose to 100° F. or higher, and in these the average fall in the systolic pressure was 19 and in the diastolic pressure 11 mm. Hg. Among these 16 febrile cases, 7 showed Herxheimer's reaction, and presented an average fall in the systolic pressure of 19 and in the diastolic of 13 mm. Hg. In the other 39 cases the averages of the falls in the systolic and diastolic blood pressures were 15 and 9 mm. Hg. The influence of fever caused by excessive liberation of spirochaetal toxins was not marked, as the average fall of the systolic and diastolic blood pressures was 4 mm. Hg only. In the remaining 44 cases the following results were obtained: In 19 cases both the systolic and diastolic pressures were higher after than before injection. The average rise in the systolic pressure was 8.4 and in the diastolic pressure 9 mm. Hg. In 4 of these 19 cases the temperature rose to 100° F. or above, and the average rise in the systolic pressure was 6 and in the diastolic pressure 9 mm. Hg. In the other 15 cases the average rise in the systolic pressure was 9 and in the diastolic pressure 10.6 mm. Hg. In 7 cases the systolic pressure was higher (the diastolic being on an average 7 mm. Hg lower) after than before injection. The average rise in the systolic pressure was 5 mm. Hg. In 1 of these 7 cases the temperature rose to 100° F., with a rise of 2 mm. Hg in the systolic pressure and a fall of 14 mm. Hg in the diastolic pressure. In 18 cases the diastolic pressure was higher (the systolic pressure being on an average 8 mm. Hg lower) after than before injection; the average rise in the diastolic pressure was 7 mm. Hg. In 9 of these 18 cases the temperature rose to 100° F. or above, and the average rise in the diastolic

pressure was 8 mm. Hg and the average fall in the systolic pressure 11 mm. Hg. In the other 9 cases the average rise in the diastolic pressure was 6 mm. and the average fall in the systolic pressure was 5.5 mm. Hg. By arranging these figures rather differently it is seen that seven hours after injection there is

A fall in both the systolic and diastolic pressures in	55
A fall in the systolic pressure alone in	18
Making a fall in the systolic pressure in 73	
A fall in the diastolic alone in	7
Making a fall in the diastolic pressure in 62	
A rise in both the systolic and diastolic pressures in	19
A rise in the systolic pressure alone in	7
Making a rise in the systolic pressure in 26	
A rise in the diastolic pressure alone in ...	18
Making a rise in the diastolic pressure in 37	

The blood pressure seven hours after the intravenous injection of neo-salvarsan is therefore usually lower than the blood pressure before injection. In the systolic blood pressure there was a fall in 73 cases, as compared with a rise in 26, or, approximately, in the proportion of 3 to 1. The average fall in the systolic blood pressure was 14 mm. Hg. In the diastolic blood pressure there was a fall in 62 cases, as compared with a rise in 37, or in the proportion of 5 to 3. The average fall in the diastolic pressure was 9.6 mm. Hg. The fall in the diastolic pressure is therefore slightly less than in the systolic pressure. The fall of blood pressure seven hours after injection cannot be explained as due to fever, for a rise to 100° F. or more occurred in 30 cases only. Out of these 30 febrile cases the systolic pressure was lower in 25 and higher in 5 cases seven hours after injection than it was before injection. The average additional fall of the systolic blood pressure in the 25 cases was 4.5 mm. Hg, while the diastolic was lower in 17 and higher in 13 of the 30 febrile cases; and the average additional fall in the 17 cases was 2.6 mm. Hg. The influence of fever so far as it goes in depressing the blood pressure is even less marked on the diastolic than on the systolic blood pressure.

Comparison of the Blood Pressure taken Seven Hours after Intravenous Injection of Neo-salvarsan with the Average of the Blood Pressure Estimations on Subsequent Days.

Out of 98 cases there were 58 in which the averages of both the systolic and diastolic pressures on the days subsequent to injection were lower than those seven hours after the injection. The average fall in the systolic pressure was 7.3 mm. Hg and in the diastolic pressure 10.4 mm. Hg. Among these 58 cases there were 17 with a temperature of 100° F. or more seven hours after injection, showing an average fall of 10 mm. Hg in the

systolic and 11 mm. Hg in the diastolic pressure; whereas in the other 41 cases the corresponding average falls in blood pressure were 8.7 and 10 mm. Hg. Out of the remaining 40 cases there were 13 in which the averages of both the systolic and diastolic estimations on the subsequent days were higher than the blood pressure seven hours after injection. The average difference in the systolic pressure was 9.5 mm. Hg and in the diastolic 8 mm. Hg. In 4 of these cases there was, seven hours after injection, a rise of temperature to 100° F. or more with corresponding differences of 13 mm. Hg and 16 mm. Hg, contrasting with differences of 8 mm. Hg (systolic) and 5 mm. Hg (diastolic) in the remaining 9 cases. In 21 cases the average of the systolic blood pressure estimations on the subsequent days was higher and the average of the diastolic blood pressure estimations on the subsequent days lower than seven hours after injection. The average difference in the systolic pressure was 5 mm. Hg, and in the diastolic 6 mm. Hg. In 8 of these 21 cases there was a temperature of 100° F. or more seven hours after the injection, and the corresponding differences were on an average 3.5 mm. Hg (systolic rise) and 6.5 mm. Hg (diastolic fall); whereas in the remaining 13 cases the difference was 6 mm. Hg in both cases. In 6 cases the systolic pressure was higher and the diastolic pressure lower seven hours after injection than the average of the blood pressure estimations on subsequent days, the average differences being 4.3 mm. Hg and 3 mm. Hg respectively.

By arranging these figures rather differently it is seen that, as compared with the blood pressure seven hours after intravenous injection, there is on the subsequent days:

A fall in both the systolic and diastolic pressures in	58
A fall in the systolic pressure alone in	6
Making a fall in the systolic pressure in 64	
A fall in the diastolic pressure alone in ...	21
Making a fall in the diastolic pressure in 79	
A rise in both the systolic and diastolic pressures in	13
A rise in the systolic pressure alone in... ...	21
Making a rise in the systolic pressure in 34	
A rise in the diastolic pressure alone in ...	6
Making a rise in the diastolic pressure in 19	

This shows that the average of the blood pressure estimations taken on the subsequent days is usually lower than the blood pressure taken seven hours after the intravenous injection. The systolic blood pressure was lower in 64 cases and higher in 34, or roughly in the proportion of 2 to 1; while the diastolic pressure was lower in 79 and raised in 19 cases, or in the proportion of 4 to 1. The fall, therefore, is more marked in the diastolic than in the systolic pressure. The modifications in the blood pressure in the cases with fever seven hours after injection are not sufficiently constant or definite to justify any conclusions as to the influence of fever.

Blood Pressures taken during the Intravenous Injection of Neo-salvarsan.

As already mentioned, this was done in 19 cases. In 15 cases both the systolic and diastolic pressures were higher during the injection than they were on the previous days or day. The average rise in the systolic pressure was 22 mm. Hg, and the greatest 46 mm. Hg. The average rise in the diastolic pressure was 14 mm. Hg. In 2 cases the systolic pressure was higher, but the diastolic pressure lower, than on the days or day before the intravenous injection. In 1 case the systolic pressure was lower, while the diastolic pressure was higher than before injection. In 1 case both the systolic and diastolic pressures during injection were slightly lower (systolic by 1 mm. Hg, diastolic by 3 mm. Hg) than before injection. By taking the blood pressure throughout the process of injection it was shown that the systolic pressure may fluctuate considerably; the maximum variation was 28 mm. Hg, and the average 15 mm. Hg. It may be highest before the skin is punctured; thus, in 1 case the systolic blood pressure was 160 mm. Hg just before the injection was actually given and fell while it was going on to 140 mm. Hg. In most instances it was lower at the end than at the beginning of the *séance*. The diastolic pressure fluctuated less than the systolic pressure during the performance of intravenous injection; the maximum variation was 14 and the average 6.5 mm. Hg. In 18 out of the 19 cases both the systolic and diastolic pressures were higher during the injection than they were seven hours later, the average systolic difference being 23 mm. Hg, and the average diastolic difference 12.8 mm. Hg. In the remaining case the systolic pressure was higher, but the diastolic pressure was lower during injection than seven hours later. In 18 out of the 19 cases both the systolic and diastolic pressures during the injection were higher than the average of these blood pressure estimations taken on the subsequent days. In the remaining case the systolic pressure during injection was 22 mm. Hg higher than the average of the systolic estimations on subsequent days, but the diastolic was 3 mm. lower than the average of the diastolic pressures on subsequent days. It appears that the rise of blood pressure during the intravenous injection of neo-salvarsan is due to mental excitement.

Comparison between the Blood Pressure Estimations taken in Connexion with (1) *First and* (2) *Second Injections of Neo-salvarsan.*

In 12 cases the blood pressure estimations were carried out in connexion with two intravenous injections of neo-salvarsan given at an interval of about one month. In 10 of these cases both the systolic and diastolic blood pressures taken before the second injections were lower than they had been before the first injection; in one case the systolic before the second injection was higher

than it had been before the first injection, and in one case the diastolic pressure before the second injection was higher than it was before the first injection. The fall in 10 out of the 12 cases might be interpreted to mean that the remote effect of treatment was to lower the arterial blood pressure. But this must not be insisted upon, as the pressor effect of excitement would be much more powerful when the estimation was first done than on the occasion before the second injection. In addition 12 cases is too few to justify any far-reaching conclusion.

A comparison between (*a*) the average of the blood pressure estimations made on the days subsequent to the first injection, and (*b*) the blood pressure taken before the second injection, shows that in two-thirds of the 12 cases the blood pressure was higher in (*b*). But it must be remembered that in (*a*) the patients had been in bed for some five days, which would tend to lower the blood pressure, whereas in (*b*) they had been up.

Conclusions.

1. The average of both the systolic and diastolic blood pressures on the days after injection is generally lower than before injection, the fall in the systolic being slightly more marked than in the diastolic pressure. This fall, however, is very probably not a direct result of the action of neo-salvarsan, and, in part at least, may be due to rest in bed.

2. The blood pressure seven hours after the intravenous injection of neo-salvarsan is usually lower than it was before. The fall in the diastolic pressure is slightly less than that of the systolic pressure. The fall cannot be explained as due to fever.

3. As compared with the blood pressure taken seven hours after the intravenous injection of neo-salvarsan, the average of the blood pressure estimations on subsequent days is usually lower. This is more marked in the diastolic than in the systolic blood pressure.

4. During the actual intravenous injection of neo-salvarsan both the systolic and diastolic pressures are nearly always higher than on other occasions. This appears to be due to excitement. During the operation the pressures may vary considerably, the systolic blood pressure being more affected than the diastolic.

5. The blood pressure before the first injection of neo-salvarsan is nearly always higher than the blood pressure before the second injection of neo-salvarsan, but here again mental excitement may be responsible.

6. Finally, the general effect of intravenous injections of neo-salvarsan is rather to lower, certainly not to increase, the arterial blood pressure.



With the Writer's Compliments

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An Address

ON

NAVAL MEDICINE IN THE GREAT WAR

Delivered at the Medical Society of London on February 12, 1917

BY

H. D. ROLLESTON, C.B., M.D. CANTAB.

F.R.C.P. LOND.

TEMPORARY SURGEON-GENERAL, R.N.; CONSULTANT PHYSICIAN, ROYAL NAVY; SENIOR PHYSICIAN, ST. GEORGE'S HOSPITAL.



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An Address

ON

NAVAL MEDICINE IN THE GREAT WAR.

Medical Personnel.

Mr. President and Gentlemen,—At the outbreak of war the permanent Medical Service of the Navy, with Sir Arthur May as Medical Director-General, was at once expanded by the mobilisation of its retired members, of officers on the emergency list, and of the medical officers of the Royal Naval Volunteer Reserve. In addition, a large number of temporary surgeons were entered, and about ten consultants were appointed, mainly to the large base hospitals. A considerable proportion of the temporary surgeons first passed through the large naval hospitals and received some instruction in naval routine and procedure. Rather later an old type of naval medical officer—viz., allied to that of surgeon's mate—was revived in the appointment of unqualified medical students who had passed their examination in anatomy and physiology, under the title of Surgeon-Probationers, R.N.V.R. They were usually appointed in batches of 15 to Haslar, where they were instructed in Service routine, accounts and returns, victualling of the sick and treatment of wounded in action, and were subsequently drafted to destroyers, which ordinarily do not carry medical officers, and to other small sea-going ships, to render first-aid. After a certain period of service many of them were granted leave to prepare for and pass their final examinations, and so to become temporary surgeons.

The work of the clinical laboratories of the large base hospitals was assisted by the utilisation of men with laboratory knowledge but without medical qualifications, who, however, did not receive naval rank. Dr. P. Fildes was sent to Haslar by the Medical Research Committee and was of the greatest use in dealing with the bacteriological

examination of the numerous convalescents from dysentery, enteric ever, and other intestinal diseases sent from Gallipoli.

Queen Alexandra's Royal Naval Nursing Service was more than trebled by the mobilisation of the reserve nursing sisters. The number of nursing sisters at the large base hospitals was thus very largely increased and they were supplied to the hospital ships, which usually carry four nursing sisters, two regulars and two reserves. The existing sick-berth staff, which was considerably depleted when the Fleet was mobilised, was supplemented by the Naval Auxiliary Sick Berth Reserve, composed mainly of men from the St. John Ambulance Brigade.

Transport of the Wounded and Sick.

Transport duties are familiar to naval officers, and their services have naturally been utilised during the war. The naval transport, both at home and abroad, has been under the oontrol of Surgeon-General Sir James Porter, K.C.B , who, early in 1915, went out to supervise the transport arrangements in Gallipoli for the Army as well as the Navy. Fresh developments in methods of transport, such as a new ambulance sling (Boydon), a monowheel stretcher-carrier (Rev. B. Close), the use of the movable-cot system on ambulance trains, and improvements on hospital ships have been evolved.

Ambulance trains.—Of the four naval ambulance trains in use at present in this country, the larger ones, made up of 12 coaches and carrying 120 cot cases, travel from the north to the south as occasion requires, in ordinary times about twice in ten days. Once a week they take the patients off the hospital ships, and rather less often they collect patients from the naval hospitals in the vicinity of the naval bases. The patients are dropped in succession at the large naval hospitals, Plymouth, Haslar, Chatham, and occasionally at Portland. These, colloquially called "round" trains, carry two medical officers, a crew of 36 stewards and sick-berth attendants, but no female nurses. Two padded rooms are provided for the reception of lunatics. A small ambulance train of six coaches, called "the shuttle," travels locally between the naval bases and the local hospitals. Sir James Porter and Acting Staff-Surgeon A. V. Elder, R.N.V.R., devised a plan whereby the Service cot, into which the patient is placed in his own ship or in the hospital ship, is securely suspended and lashed up against the fender at the side of the coach in the ambulance train, thus avoiding the fatigue necessitated by transfer from a stretcher to a fixed cot in the ambulance train.

Hospital ships.—The experience of the present war has

somewhat modified previous conceptions of the uses of hospital ships. In peace-time a hospital ship accompanies the Fleet and serves as a mobile base hospital until it becomes full, when she leaves the Fleet in order to discharge the patients to a land hospital, and for the time acts as a marine medical transport, or, in other words, a marine ambulance (Elder[1]). In the South African War (1899–1902), in the transport of wounded and sick across the Channel, and in the case of their service between the Mediterranean and this country at the present time, our hospital ships did, and now, act as "Marine Ambulances"; and in the Russo-Japanese War (1904–5) the two Japanese naval hospital ships worked on these lines. In modern naval engagements, contrary to what might have been anticipated,[2] the hospital ships cannot accompany the Fleet and take charge of the wounded for the following reasons: (1) the hospital ships could not keep up with the rapidly moving battleships; (2) the transfer of wounded from a battleship to the hospital ship would be possible only in exceptionally calm conditions; and (3) the transfer of wounded would oblige the battleship to heave to, and thus expose it to hostile submarine attack. In order to meet this want it has been suggested that fast vessels of about 500 tons, registered under the Geneva Convention, and fitted with appliances for rapidly picking up survivors from the sea, should be employed on the scene of a recent action. But this plan has not been put into effect.

The use of hospital ships in war-time may, as Elder points out, be divided into: 1. The intervals between actions, during which the hospital ship remains at the naval base until it is full—for four or more weeks—and then discharges its patients, by steaming to a railhead, to an ambulance train. During its stay at the naval base the load of the hospital ship may be lightened from time to time, and its stay thus prolonged, by evacuation of some patients to a hospital carrier which conveys them to a land hospital or ambulance train. A large number of surgical operations are performed in a hospital ship during its stationary period at a naval base and minor cases when cured return to duty in the Fleet.

2. The post-action phase, when the hospital ships are collected at the naval bases to await the arrival of the battleships, receive the wounded, and serve as clearing stations. The wounded and burnt are sorted and as rapidly as possible evacuated to the shore and to the ambulance trains. Severe cases, which would obviously suffer from transport, are taken

[1] Elder, A. V.: On Hospital Ships and Their Functions, Jour. Roy. Nav. Med. Service, 1916, ii., 443.

[2] At the Battle of the Yellow Sea on August 10th, 1904, the Russian hospital ships followed their Fleet, and, as the Japanese point out, ran the risk of being accidentally torpedoed. (The Surgical and Medical History of the Naval War between Japan and Russia (1904–1905), 1911, pp. 121, 150.)

to the comparatively small hospitals in the immediate neighbourhood, but all suitable cases are at once despatched by the ambulance trains to the large base hospitals in the south of England, so as to clear the land hospitals in the vicinity of the naval bases for the reception of further instalments of wounded.

Immediately after a battle, therefore, a hospital ship ceases to act as a base hospital and becomes a clearing station, and should be evacuated as rapidly as possible, as their capacity for cot cases—on an average 250—does not admit of any extension. It should be added that a hospital ship may be employed as a permanent floating hospital for infectious diseases at a naval base which is remote from such hospitals on land.

Hospital ships, like ambulance trains, had to be brought into being when war broke out, and were provided by the transformation of liners. They were staffed by the existing executive crews of the company and by naval medical officers, with a Fleet-Surgeon in charge, and with nursing sisters.

The Health of the Navy.

In considering this subject a distinction may conveniently be made between the health of (i.) the shore depôts and training establishments ; (ii.) the Service afloat ; and (iii.) the Royal Naval Division and the Marines serving on land.

I.—*The Shore Depôts and Training Establishments.*

The barracks, depôts, and training establishments are more exposed than the Service afloat to invasion by epidemic and other infections on account of their contact with the civilian population, the influx of new entries, and, especially in the case of the boy-training establishments, by the massing together of large numbers of youths who are more susceptible than adults to many of the common epidemic affections. Further, the health of the Fleet has been protected by the adoption of quarantine measures as regards drafts sent to it from the shore depôts. The liability of the shore establishments to epidemic disease is shown by the incidence of cerebro-spinal fever ; out of 274 cases in the Navy during the first two years of the war, 252, or 92 per cent., occurred on shore ; thus, there were 63 in the Portsmouth area, 58 in the Plymouth area (including 22 cases from boy-training ships), 42 at the Crystal Palace depôt, 39 in the Chatham area, 27 at the Deal depôt, and 18 at Shotley.[3] Shetlanders in barracks suffered much from

[3] The Lancet, 1915, ii., 909 ; 1917, i., 54.

measles, probably on account of the absence of any racial immunity to this disease.

II.—*The Service Afloat.*

The health of the Fleet—our first line of defence—is of such paramount importance that it demands more detailed description. Under this heading reference will be made first to the Grand Fleet in home waters and then to the Mediterranean Fleet.

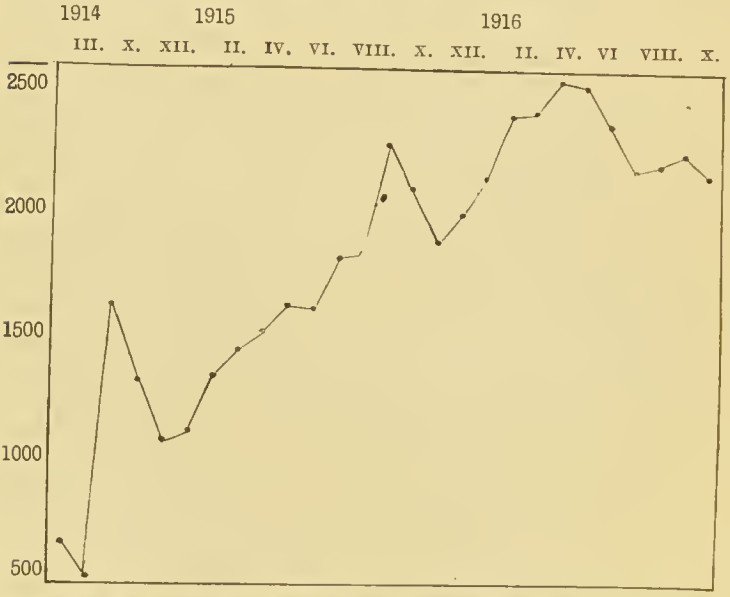
The Grand Fleet.—The general health of the Grand Fleet has been extremely good, indeed probably better than in times of peace. The average daily percentage of sick in the whole Fleet in 1913 was 2·37, and in 1914 a little lower, 2·03. Since the outset of war cases of sickness have naturally been sent off to hospital more rapidly than in peace time, and thus the daily sickness in the Fleet is diminished. But even allowing for this, the average daily sickness in the Grand Fleet has been extremely low, almost always under 1 per cent., and indeed has fallen since the outbreak of war. This percentage incidence would have been even less had it not been for the higher rate of sickness among the reservists and pensioners. Most of the sickness was of a minor character, such as seasonal influenza and boils.

Infectious diseases.—Measles, mumps, rubella, scarlet fever, and diphtheria occurred, but in the majority of instances they subsided after the appearance of the initial cases. An interesting point was the severity of measles among the Shetlanders both on the Fleet and among the reservists stationed at Lerwick, where there was a severe epidemic early in 1915 (McVittie). In ordinary times measles is rarely seen in the Shetlands, but when it is introduced an epidemic results. This severity of the disease in a race unprotected against it recalls the devastating epidemics of measles in the adjacent Faröe Islands in 1781 and 1846, in Fiji in 1875 and 1907, and in the neighbouring island of Rotumá in 1911 (Corney [4]). Dr. R. P. Heddle, medical officer of health of Kirkwall, writes that in some of the Orkneys measles is often absent for 15 or 20 years, and that when it occurs the children have it in much the same manner as in the south, but that adults take it severely and often suffer from pneumonia and occasionally from meningitis. I saw a relapse of measles in a Shetlander on the twenty-eighth day of the disease at Chatham—an extremely rare event. No case of small-pox occurred in the Fleet, thus showing the value of vaccination which has been compulsory in the Navy since about 1858. Except in the Mediterranean

[4] Corney : Proc. Roy. Soc. Med., 1913, vi. (Sect. Epidem.), 138.

Fleet there were very few cases of enteric fever. Small outbreaks in three ships were traced respectively to infected oysters dredged up from Langstone Harbour, near Portsmouth, to a carrier, and probably to contaminated water taken on board at Montreal.

With the prolongation of the war it would naturally be expected that the amount of sickness would increase, and study of a curve showing the monthly average of officers and men in the large naval hospitals, Chatham, Haslar, Plymouth, for the figures of which I am indebted to Surgeon-General D. T. Hoskyn, Surgeon-General G. Welch, and Surgeon-General W. H. Norman, shows that, allowing for two peaks due to extraneous causes (campaigns on land), there was a gradual rise from the beginning of the war until April, 1916, after which there came a slight fall. This would at first sight appear to confirm the anticipation of increased sickness. But, as already mentioned, the daily average percentage of sick in the Fleet had fallen during this period,



Graph of the monthly daily average of officers and men of all naval branches in the large naval hospitals at Chatham, Haslar, and Plymouth. The steep rise in October, 1914, was due to the admission of a large number of Belgian officers and men. The rise in September and October, 1915, was coincident with a large influx of patients from the Royal Naval Division on Gallipoli.

and it is therefore probable that the absolute increase of sickness, as shown by returns of the hospitals, is mainly due to the steady increase in the strength of the Navy during the progress of the war. Although there are, of course, no official

figures obtainable as to the present strength of the Navy, it may well have so increased as to account for the doubling of the absolute number of sick, while the relative percentage incidence in the Grand Fleet has even fallen.

The Mediterranean Fleet.—In the Eastern Mediterranean squadron during August, October, and November, 1915, almost every ship was attacked by epidemic gastro-enteritis, which, however, died down in December. There was a fair number of cases of typhoid, paratyphoid, and dysentery between August and the end of December, 1915. The dysentery was mainly amœbic, and in many cases was associated with jaundice. The infection of these diseases was probably conveyed by flies and by men returning from the beach. The health of the Adriatic squadron at this time was excellent, and the average daily sickness for the whole Mediterranean Fleet from August 15th, 1915, to Oct. 31st, 1915, was 2·24 per cent., and from Nov. 1st, 1915, to Jan. 31st, 1916, 1·52. This compares favourably with a daily percentage of 2·37 sick for the whole Fleet in 1913. From Feb. 1st to April 30th, 1916, the health of the Fleet was even better with a daily percentage of 1. Between May 1st and July 31st, 1916, the daily average of sick was 1·14 per cent. A mild form of pyrexia (sand-fly fever) was prevalent at Salonika in May and appeared in some of the ships in the Eastern Mediterranean, and at intervals cases of paratyphoid, dysentery, and malaria occurred. In the quarter ending Oct. 31st, 1916, the daily percentage of sick was 1·08; dysentery and malaria were less frequent than in the previous three months, and typhoid and paratyphoid rare. No cases of beri-beri have been reported from the Mediterranean Fleet. For this information I am indebted to Sir A. May and his assistant, Fleet-Surgeon W. L. Martin, R.N.

During August and September, 1915, there was an extensive epidemic of dengue at Bermuda, and the average incidence of the disease in men of war there was 3 per cent. only. Meagher's [5] observations there support the view that the disease is spread by mosquitoes.

The good bill of health of the Fleet as a whole—a tribute to preventive medicine—is due to the following factors: 1. The comparative isolation of the fleets, and especially of the Grand Fleet, thus necessitating absence of venereal disease and of opportunities for alcoholic excess incident to the temptations of seaports. In the Fleet the men's daily allowance of stimulant is half a gill of rum, and special precautions are taken to prevent the adsorption of unused allowances by other men. 2. The quarantine precautions in drafting from the shore establishments to the Fleet, instituted by the Medical Director-General, Sir Arthur May.

[5] Meagher: Journ. Roy. Nav. Med. Service, 1916, ii., 188.

3. The lectures given by the medical officers to the ships' crews on personal hygiene, dealing especially with the dangers of venereal disease and alcoholic excess. These lectures appealed to the common sense of the men, and as an illustration of their good effect it may be mentioned that on the return from leave of the men (about 1100) of one great battleship there were only three cases of gonorrhœa and one of syphilis. 4. Measures to obviate the effects of monotony entailed by awaiting events which have been long anticipated. Thus, when possible, regattas, boxing competitions, and other entertainments are got up, and both by their preparation and performance brighten up the men. In the Grand Fleet the short days of winter are the most trying, and then, in addition to entertainments, lectures, for example, by those who have made visits to the front in France, and cinema shows serve a useful purpose. Each big ship has its cinema, and there is a scheme of circulating films between the various ships. Periodical leave is also provided. 5. Improvement in the ventilation of the ships, due to the adoption in 1914 of the recommendations of a committee, of which Fleet-Surgeon R. C. Munday was the secretary, appointed in October, 1912, to consider the best methods of ventilating modern warships.

Influence of mobilisation and war on the health of the navy.—After this summary of the satisfactory state of the health of the Fleet a few words may be said as to the bad influence which mobilisation and war might be expected to exert on the health of the Navy. Large numbers, running into tens of thousands of men of the Royal Naval Volunteer Reserve, the Royal Naval Reserve, and the Fleet Reserve were called up and had necessarily to be rapidly passed into the ships during the first few days of the war, and as a result a certain proportion of unfit slipped through. The incidence of sickness was therefore naturally much higher in the Royal Naval Volunteer Reserve and Royal Naval Reserve than in the Royal Navy, which may be regarded as a picked body of healthy men. Cases of failure of cardiac compensation, of relapses in pulmonary tuberculosis, and of diseases which had previously led to discharge from the service were not infrequent, and dental caries and insufficiency extremely common. As cases of organic valvular disease of the heart are invalided out of the service, malignant endocarditis, which usually supervenes on existing valvular disease, is a rare disease in peace time—averaging about two cases a year. Since the outbreak of war I have seen ten fatal cases (six examined post mortem) and one of that exceptional but allied condition malignant aortitis, chiefly but not entirely in reservists and pensioners.

In addition to the cases in the Navy a case occurred at Haslar of acute malignant endocarditis in a Belgian soldier

who was for months under treatment for severe burns; after being normal for a long time the temperature suddenly shot up and the patient died in 12 days with, as the necropsy proved, acute malignant endocarditis. The interest of the case is that the onset and duration of the disease could be accurately determined.

The numerous new entries, mostly quite young, who are exposed to the depressing conditions incident to their change of life, such as vaccination, the fatigue of unaccustomed drills, and homesickness, provide a favourable soil for the occurrence of infectious diseases, such as measles, rubella, scarlet fever, mumps, and cerebro-spinal fever. Outbreaks of infectious diseases occurred, but it is remarkable that there was not more illness.

The effect of long-continued strain on men, especially pensioners and reservists, in activating latent disease, such as tuberculosis or heart disease, was naturally seen. In the Navy these two conditions lead to invaliding, and their recrudescence was therefore more frequent among reservists and pensioners called up for the duration of the war. Pulmonary tuberculosis in ships was not so frequent as some anticipated from the conditions necessitated by the war.

Strain, physical and mental, precipitated tabes dorsalis and general paralysis of the insane in some syphilitic subjects; and a generous view from the pension aspect has been adopted by the Admiralty. Some cases of incipient tabes have been utilised by work of a less arduous physical character. During the siege of Paris in 1870 it was noted that exophthalmic goitre became more frequent, and this has appeared to me to be true, both during the Boer War and the present campaign. Much discussion has taken place as to the influence of hyperthyroidism in the etiology of the so-called soldier's heart. Over-excitation of the ductless glands may result from excitement or from toxæmia due to acute infections; and Hurst [6] points out that as overactivity of the thyroid can be more early recognised than that of the other ductless glands the resulting condition has been regarded as simple hyperthyroidism, but that the change is more complex, being really a disturbance in the activity of all the ductless glands. Diabetes mellitus, the incidence of which might conceivably be favoured by nervous strain, does not appear to me to have become unduly frequent.

The prolonged and monotonous strain necessitated by life in the Fleet favours mental deterioration, psychasthenia, and neurasthenia, especially in those with a neurotic taint and in those who have not been through a long training. Further, the short interludes of acute stress and excitement which punctuate the periods of monotonous alertness may so disturb

[6] Hurst, A. F.: Medical Diseases of the War, p. 127, 1917.

the already vibrating balance as to precipitate an acute breakdown with violent though transient symptoms and delusions. The burden of responsibility and in a small ship the influence of comparative isolation on the senior officer favour mental instability, and may lead to a want of self-confidence bred of brain-fag. In an interesting psychological study of the influence of periods of (1) monotonous watchfulness, (2) acute stress, and (3) comparative calm on a ship's company during the first six months of the war, Beaton [7] found that mental troubles of a really serious nature occurred in less than 1 per cent. and mild neurasthenic conditions in less than 4 per cent. With the prolongation of the war the results of the continued and monotonous strain would naturally be expected to become more noticeable, but, as far as my impression goes, not to anything like the extent that would have been expected. This happy result is no doubt due to several factors—the fine spirit of confident superiority in the men, and the hygienic measures already mentioned. The effect of good moral in preventing mental disturbance was seen by the freedom of the men from these manifestations after the Jutland Battle.

Casualties during action.—With this subject I can attempt to deal in very brief and imperfect outline only. As compared with land warfare, the large number of men killed outright in naval actions is striking. In the Russo-Japanese naval war of 1904–05 there were 3692 killed and wounded, of whom 1883 were killed outright (including 1388 probably drowned [8]). It is not considered advisable in the public interest to give the figures for the Battle of Jutland, but from the total loss of battleships the numbers of men presumed to be drowned, though, of course, many in the sunk ships may have been killed, wounded, or burnt, must obviously have been very large.

Wounds.—As compared with wounds in the trenches, where the clothing and skin are ingrained with filth, wounds in naval actions obviously differ, and have been classed with those of severe machinery accidents. Wounds of soft parts and compound fractures were due to shells, their splinters, shrapnel, and fragments of the ships' structures. Several cases of eye injuries necessitated enucleation, and in one remarkable instance an eye was found to contain a piece of bone ¾ inch square, apparently from the vault of another man's skull (L. Fraser [9]). The treatment of wounds by new antiseptic applications has been advocated by Sir Watson Cheyne (borsal), who also

[7] Beaton, T.: Jour. Roy. Nav. Med. Serv., 1915, i., 447.

[8] The Medical and Surgical History of the Naval War between Japan and Russia (1904–1905), 1911, p. 588.

[9] Fraser, L.: Journ. Roy. Nav. Med. Serv., 1916, ii., 440.

investigated Dakin's antiseptic, and a green spray of perchloride of mercury and malachite green (Fildes, Rajchman, and Cheatle[10]) has been used with success at Haslar. The rival claims of the antiseptic method and of the physiological hypertonic salt solution treatment have led to an encounter between the President of the Royal College of Surgeons and Sir Almroth Wright.

Burns form an important proportion—at least a third—of the casualties in action, and fall into two main categories: 1. General and severe burns due to the ignition of our own cordite or to burning furniture. As the result of prolonged exposure to these flames destruction of the tissues is deep, the immediate mortality high, and sepsis and deformity especially prone to occur. 2. Burns of the exposed skin of the face and hands due to the momentary flash of high-explosive shells in a confined space. The flash is of such short duration that from instinctive closure the eyes escape, and the thinnest covering, provided it is not inflammable, almost completely protects the skin (Muir[11]). In the *Lion* about half the wounded had burns of the face and hands alone (Maclean and Stephens[12]). There seems to have been a general agreement that the Service picric-acid dressing was most efficacious as a first application, but subsequently moist and mild antiseptics were found to be more suitable. The new treatment by ambrine is now officially provided.[13]

Shock, even in cases of slight injury, was found to be excessive, and for this reason immediate operations should be avoided (Muir). As a means of obviating shock morphine proved a sheet-anchor, $\frac{1}{2}$ to $\frac{2}{3}$ grain being injected hypodermically. The sublingual method of allowing tablets to dissolve under the tongue, which is convenient as it does not necessitate the presence of a medical officer—the tablets being served out by an executive officer—was not satisfactory. The administration of $\frac{1}{2}$ pint of warm bovril containing 2 oz. of brandy proved beneficial in the *Tiger* in the Jutland Battle.

Poisoning by gases from explosives.—The detonation of shells such as lyddite and the burning of our own cordite liberate large quantities of CO and CO_2, but the most powerful factor in the production of "gassing" is nitric oxide. The symptoms usually come on after a comparatively uneventful interval; and possibly during this incubation period the NO and NO_2 are oxidised into nitric acid (Symons[14]), which accounts for the acute irritant effects on

[10] The Lancet, 1915, ii., 165.

[11] Muir: Journ. Roy. Nav. Med. Service, 1916, ii., 415.

[12] Maclean and Stephens: Ibid., 1916, ii., 425.

[13] The Lancet, 1917, i., 201.

[14] Symons: Journ. Roy. Nav. Med. Service, 1916, ii., 516.

the respiratory tract. Severe headache and vomiting are early symptoms, followed by cough, husky voice, dyspnœa and cyanosis which become progressively worse, rapid respirations reaching 80 or more per minute, restlessness, pain and tightness behind the sternum, orthopnœa, frothy, sometimes blood-stained expectoration, and œdema of the lungs. Prophylactic treatment is most important and quite effective; it consists in the immediate application of the Service respirator containing cotton-waste soaked in the usual soda solution. The respirator should be worn round the neck from the beginning of the action, so as to lose no time in putting it in position. The treatment of the declared condition is unsatisfactory. Though theoretically attractive, atropine does not appear to have been successful. Some benefit has been ascribed to brandy, the production of vomiting, and the repeated administration of spiritus ammoniæ aromaticus in 1 oz. of water.

Cases of carbon monoxide poisoning occurred, and I had the opportunity of seeing three cases among men employed in putting out a fire in the bunkers of a collier. One of these presented curious nervous symptoms, resembling in some respects peripheral neuritis but more probably functional in nature, which persisted for two years.

Delayed pneumonia after immersion was noticed by Deputy Surgeon-General H. W. G. Doyne in some cases after the sinking of the *Cressy*, *Pathfinder*, and *Hermes*. Pneumonia occurred about three weeks after the immersion.

Appendicitis is not rare in the Navy in peace-time; before the war it occurred in about 0·2 per cent. of the personnel of the Navy. Since the war began it is impossible to give the percentage, but it is by no means uncommon. I am indebted to Surgeon C. J. G. Taylor, R.N.V.R., for figures which show a decided percentage increase in the incidence of appendicitis directly after the Battle of Jutland among the sick from the engaged ships. He also points out that there was a similar rise in the incidence of appendicitis directly after a sweep of the Fleet in the North Sea when contact with the German Fleet was almost established. On the other hand, when the Hospital Ship *Soudan*, in which he served, was present at the opening stages of the Gallipoli operations, and the men were exposed to conditions of naval warfare, the incidence of appendicitis among 11,619 cases of wounds, sickness, and accident was low—viz., 0·2 per cent.

III.—*The Royal Naval Division.*

The Royal Naval Division served in Belgium, Gallipoli, and is now in France under the Army. The Marines also fought on land in Mesopotamia. The naval forces have therefore been exposed to the same infections and diseases as the armies with whom they have been associated. The contrast between the incidence of disease in the Service

afloat and the Naval Divisions on land is as striking as that between the conditions of naval and military warfare generally. Even if statistics were available, it would be impossible to deal fully with the diseases among the Naval Division in Gallipoli, as this would be equivalent to a consideration of military medicine, but a few points of interest may be mentioned.

As has always been the experience in war until quite recently, diseases due to infection through the alimentary canal—diarrhœa, typhoid, paratyphoid, dysentery, and jaundice—levied a heavy toll in Gallipoli, and a large number of men were invalided to this country.

Diarrhœa was so frequent that it was regarded as an incident rather than a cause of going sick, and a solid motion was the exception rather than the rule on the Peninsula; men might go to the latrines ten times daily for months without reporting themselves as sick. As it was common when sand-storms were prevalent, it was called sand diarrhœa, but it is probable that it was not entirely due to the purely mechanical irritation of the sand, but that the sand conveyed micro-organisms into the food, and that flies, which were a veritable plague at Gallipoli, may have played a carrier part in the infection of food.

Dysentery, the amœbic and bacillary forms being predominant at different periods, claimed many victims, but the treatment by emetine and antidysenteric serum gave very satisfactory results. Indeed, many cases of amœbic dysentery appeared to have been cured by the time they arrived in this country, and thus amœbic dysentery appeared, as judged by the observations in this country, to be less common than it was reported to be in the Eastern Mediterranean. Among 143 cases in 1916 in which Mr. H. A. Baylis found protozoa in the fæces, 29, or 20 per cent., showed *Entamœba histolytica*. Emetine was freely given, and in some instances the question arose whether subsequent palpitation, breathlessness, arrhythmia, and precordial pain were due to the poisonous effects of the acute infection, excessive smoking, or the remedy emetine; for experimentally emetine has been found to produce ventricular fibrillation (Levy and Rowntree). It is interesting to note other bad effects of this successful drug—peripheral neuritis and chronic diarrhœa with or without blood which must be distinguished from a recurrence of dysentery. On the other hand, the freedom with which emetine was given may have been responsible for the rarity of hepatic abscess. Three cases of entamœbæ in the urine with temporary vesical irritation, possibly due to rupture of a small pericolic amœbic abscess into the bladder, came under my notice. Urinary amœbiasis has apparently seldom been observed, as Scott Macfie [15] refers to 15 cases only.

[15] Scott Macfie: Ann. Trop. Med. and Parasit., Liverpool, 1916, x., 291.

Bacillary dysentery as judged by a series of late convalescent cases examined serologically by Dr. P. Fildes was found to be more often—in the proportion of 8 to 1—due to Flexner's bacillus than to Shiga's. This seems to be contrary to the general experience in Gallipoli, but the conditions of the acute infection in which the bacilli can be isolated from the fæces and of late convalescence when the agglutination reactions were performed are not really comparable. The diagnosis with which patients arrived in this country was often changed as the result of laboratory examination, and sometimes mixed infections were discovered. Among 481 cases which gave positive agglutinations pointing to bacillary infections of the alimentary canal examined at Haslar, some of which were multiple, Dr. Fildes found that 30 per cent. were due to *B. typhosus*, 23 per cent. to *B. paratyphosus A*, 20 per cent. to *B. paratyphosus B*, 22 per cent. to *B. dysenteriæ* Flexner, and 0·3 to *B. dysenteriæ* Shiga.

A large number of patients were invalided home with intestinal symptoms clinically described as paratyphoid or dysentery which, however, could not be serologically or bacteriologically proved to be due to any known infection, and were therefore labelled by the non-committal term of "enteritis." The antityphoid inoculation was fully justified by results.[16] Much bacteriological work was necessitated in the testing of patients sent home for intestinal diseases in order to prevent the escape of carriers into the general population. The increase in the number of patients in the large naval hospitals due to this cause is shown by the peak on the chart during September and October, 1915.

Epidemic jaundice, apparently imported from Egypt, was very common in Gallipoli at the end of 1915. The degree of the jaundice did not run parallel with the malaise, for men considerably bronzed continued at work while others with but slight icterus were obliged to go sick. Its etiology gave rise to much discussion; from the freedom of many patients from preceding gastro-enteritis (McBean Ross,[17] Hurst[18]) it seemed unlikely that it was catarrhal jaundice in an epidemic form. Similarly there was no evidence that it was due to dysentery or enteric fever. In some instances it followed these diseases, but usually after an interval as an accidental event. I have seen it develop in England in convalescent dysenteric and typhoid patients. The suggestion that it was due to paratyphoid (*B. paratyphosus dardanellensis*) infection of the biliary system has not been substantiated. Hurst regards the disease as an

[16] Vide Bassett-Smith: Journ. Roy. Nav. Med. Service, 1917, iii., 30.

[17] McBean Ross: Ibid., 1916, ii., 317.

[18] Hurst, A. F.: Medical Diseases of the War, p. 104, 1917.

acute infection of the duodenum by an organism allied to *B. paratyphosus A*, which should therefore be treated with the same precautions as enteric fever. The only necropsy that I have seen showed severe gastro-enteritis with a plug of tenacious mucus in the orifice of the biliary papilla. Dilatation of the heart was a definite feature, and peripheral neuritis (beri-beri) was noted as a not infrequent sequel. In one case under my care glycosuria followed the jaundice.

A form of peripheral neuritis identical with beri-beri in its clinical aspects occurred in Gallipoli and in Mesopotamia; 12 cases of beri-beri were treated at the Royal Naval Hospital, Plymouth, in 1915–16, and at least 15 such cases at Haslar during the same period. In this outbreak the usual etiological explanation of beri-beri—namely, the absence of the specific vitamine—presented difficulties; but Willcox,[19] who recognised that jaundice often preceded this beri-beri, supported the deficiency hypothesis of the disease by the explanation that the diet suitable for jaundice, diarrhœa, dysentery, and paratyphoid fever contains extremely little, and that tinned food is almost entirely devoid of the anti-beri-beri vitamine which is destroyed by a temperature of 130° C. An ingenious hypothesis was put forward by A. F. Hurst, who revived Hamilton Wright's view that beri-beri is the result of a specific infection of the duodenum, the toxins produced by which exert a special action on the nervous system. As the epidemic jaundice in Gallipoli was regarded as the result of such a duodenitis, which, however, did not always obstruct the common bile-duct, the occurrence of this beri-beri-like neuritis after jaundice, or even without previous icterus, can be thus explained, and the necessity of relying entirely on a deficiency in vitamines in the food is no longer binding. The dilatation of the heart and dropsy, which were marked features of some cases of beri-beri seen in Haslar, can thus be correlated with the dilated heart described in the epidemic jaundice.

Other fevers occurred in Gallipoli and Salonika, such as malaria, which was recently prevalent among the Royal Naval Air Service at Thasos and Cassandra in the autumn of 1916, both the forms of trench fever, and sand-fly fever. The value of anti-choleraic inoculation and of the efforts of the Health Department at the Dardanelles was shown by the freedom of the Royal Naval Division from cholera and plague, which Deputy Surgeon-General O. W. Andrews tells me were prevalent among the Turks in the immediate neighbourhood.

War nephritis and trench or Gallipoli sore, apparently analogous to the veldt sore in the South African War, and

[19] Willcox: Journ. Roy. Army Med. Corps, 1916, xxvii., 191; and THE LANCET, 1916, i., 555.

due to a Gram-positive diplococcus (Archibald, Hadfield, Logan, and Campbell [20]), were also reported.

A considerable number of bullet wounds of the chest with resulting *hæmothorax* were under observation at Haslar during the early part of the war, and as a rule were watched and not explored unless there was definite evidence of an embarrassingly large infusion or of infection, and, though recovery was slow, the vast majority did well. This was in accordance with Makins's advice based on experience in the Boer War. In the present war the practice in the Army has been to tap sterile hæmothorax except when small, and this course has not led to infection and has hastened recovery. In the trenches infection of a chest wound is much more prone to occur than was the case on the relatively sterile veldt.

Diseases of Airmen.

The chapter of aeroplane injuries and diseases—which from its interest may be briefly mentioned here—has been begun by Staff-Surgeon H. V. Wells.[21] From leakage of petrol spray the pilot may become dizzy, and the exhaust gases from the engine—carbon monoxide and dioxide—may cause headache, drowsiness, and malaise. The rarefied atmosphere at great elevations may induce the symptoms well known in balloonists, and Wells refers to a case of frost-bite in an airman who had been exposed to 34° of frost at an elevation of 15,000 feet. Psychasthenic symptoms—namely, loss of self-confidence and the resulting mental worry (aerosthenia)—are not uncommon, and prove that the victim has mistaken his sphere of activity. Flying is undoubtedly the job of a young man under 30 years of age, and not every young man is temperamentally or physically fitted to carry it through. Perfect eyesight is necessary to ensure safe landing, correction with glasses being not without its dangers; perfect hearing is essential to detect the first indications of engine defect, and free movement of the joints of the lower limbs to control the stearing-gear. Fits and tendency to faint absolutely deter the aspirant from the air service. In one remarkable instance at Haslar an airman who fainted, with the result that the aeroplane dived nose downwards 1200 feet into a ploughed field, escaped with such minor injuries that he was at first extremely loth to give up this branch of the service.

[20] Archibald, Hadfield, Logan, and Campbell: Journ. Roy. Army Med. Corps, 1916, xxvi., 695.

[21] Wells, H. V.: Journ. Roy. Nav. Med. Service, London, 1916, ii., 65–71.

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THE AIMS AND METHODS OF GRADUATE STUDY.*

BY SIR HUMPHRY ROLLESTON, K.C.B.,
M.D., F.R.C.P.,
PRESIDENT OF THE ROYAL SOCIETY OF MEDICINE; EMERITUS PHYSICIAN, ST. GEORGE'S HOSPITAL.

THE universal process of reconstruction has led to much discussion on medical education, as the writings of Sir Clifford Allbutt, Dr. Fortescue-Brickdale, Sir James Mackenzie, Sir George Makins, Mr. Thelwall Thomas, Sir George Newman, and others testify, and the present moment affords an opportunity to review some of the problems in connexion with graduate, usually and perhaps unnecessarily called post-graduate, education and teaching.

It is often said, especially in introductory addresses, that we remain students all our days, and this of course should be true; but, in assuming that we are industrious students, possibly some of us flatter ourselves—as an unconscious compensation for the apparently modest admission—for in the face of many distractions it is not so easy to carry this ideal into practical effect as it may seem at first sight. It is natural, by glancing at the weekly journals, to keep more or less in the fashion, so as to be familiar with new names and thus avoid being too obviously out of date, but more than this may be difficult for want of a definite stimulus; the bogey of examination has been safely left behind, and it is only in the naval and military services that the earlier steps of promotion are accompanied by study leave and an examination test. Without some such incentive it is only too easy to stagnate in a gradually narrowing groove, and to remain satisfied with the same outlook and the methods that held the field at the time of qualification, but have become obsolete. The advance of medical science is so rapid that without knowing it—and he seldom does—a man easily becomes a medical Rip Van Winkle. In 1911 the late Dr. J. B. Murphy[4] of Chicago suggested that the licence to practise should be granted only for a certain number of years, five or ten, and that at the expiration of this period practitioners should be required to pass an

* The opening address of the session at the North-East London Post-Graduate College, Prince of Wales's Hospital, Tottenham.

[24/20]

examination or take a prescribed course of study. The idea of a temporary diploma with a renewal contingent on an examination is not likely to meet with an enthusiastic reception.

But a less drastic step towards the same end would be the grant of some kind of a higher diploma, or even of a degree after a series of yearly courses or after a single prolonged course. This addition would perhaps be analogous to the bar to the D.S.O. or the Military Cross. It might be suggested that whereas an M.B. degree is the crown of undergraduate work, the M.D. now awarded for a thesis or by examination should be given after proof of graduate education. If such a scheme were general the habit of graduate education would in time become almost obligatory instead of optional, and would enable the graduate course to be standardized just as that demanded for qualification has long been. At first sight this may seem a revolutionary proposal, but the principle has long been acted upon in the diplomas in public health and other special branches; and in America certificates, which vary in their value and the standard required, because many post-graduate institutions are proprietary, are given after a course. Certificates were, indeed, given after the Emergency Post-graduate Course of the Fellowship of Medicine. At Harvard, where the minimum time qualifying for a certificate is four months of work occupying the whole day, the question of these degrees was under discussion as long ago as 1913; and though the matter was postponed, the personal opinion of the Dean of the Graduate School [1] was in favour of their ultimate establishment, and to the effect that a systematic course of at least eight months should be required.

Immediate Need of Organization.

The need for organization of graduate teaching on a large scale is urgent because, owing to the reluctance of English-speaking nations and their allies to go to Berlin, Vienna, Munich, and other medical centres of the Central Empires, there is a great opening for efficient and complete graduate facilities in this country, and especially in London. That the need exists has been thoroughly realized both in America and in France, where extensive preparations are being made to obviate the necessity formerly felt for a journey elsewhere to acquire the desired facilities. London's unrivalled wealth in clinical material obviously indicates that it should be the leading centre of graduate teaching. Yet though there have been various post-graduate colleges since 1890, when the first scheme under the late Sir Jonathan Hutchinson was inaugurated, it must be admitted that they have not successfully competed with those abroad. During 1919 the Fellowship of Medicine, a body originally formed to promote friendly relations among our brethren of the Dominions and Allies, organized emergency courses, mainly attended by the medical officers of the Dominion Forces and the U.S.A. Medical Corps, who

were authorized by their Governments to avail themselves of graduate instruction before they returned home. Similar courses were held elsewhere—for example, in Edinburgh, Glasgow, Manchester, and Birmingham. Courses on the same lines are now going on under the amalgamated Fellowship of Medicine and the London Post-Graduate Association; Edinburgh, Glasgow, Bristol, and Norwich are also engaged in this work. It is sincerely to be hoped that this scheme will be so expanded that a permanent Imperial graduate institution will be organized in London to attract men from the Dominions, India, Egypt, America, and abroad, as well as from this country, in the same way as Berlin and Vienna used to attract them in the past. This matter will be referred to later.

The Organization Needed.

Organized graduate instruction may be divided into three distinct forms from the point of view of time:

FORMS OF GRADUATE INSTRUCTION REQUIRED.

I. The continuation of education immediately after qualification:
 - A. Classes for higher examinations and special diplomas
 - B. Training for general practice.
 - C. Training for clinical and pathological research.

II. The continuous education of the general practitioner: local hospitals and clinics.

III. Periodic refresher courses.

I.

The continuation of education directly after qualification; this again is of various kinds, and to some extent depends on what branch of the profession the newly qualified man intends to adopt—general practice, public health, the naval, military, or colonial services, specialist or consultant practice, or laboratory research. In any event a resident post as house-physician or house-surgeon is advisable, and in most branches absolutely essential. Quite recently I heard a very distinguished physician ask the pertinent question, "Have you ever known a man recover from the handicap of not having held a resident appointment?"

(A) A brief reference should be made to advanced classes for higher examinations, such as the M.D., M.S., M.Ch., F.R.C.S., and the diplomas of Public Health, Tropical Medicine, Ophthalmology, and other special branches. The first four have usually been taken at the graduate's original hospital comparatively soon after qualification; but the character of the instruction in all of them is obviously so different from that of undergraduate schools that it might with advantage be included in a well organized graduate scheme, and this specially applies in the case of older men who, after some years in practice, are anxious to take a higher degree. The work for the

diplomas of Ophthalmology, Psychiatry, and Tropical Medicine can obviously be most efficiently carried out at special hospitals; and instruction in industrial medicine —namely, the care of the health of factory workers, a branch of public health and preventive medicine destined to be of the greatest importance—must be given in the neighbourhood of manufacturing centres.

(B) Before qualification few men realize that there will be much more to learn when once the portal is safely passed; when, however, this has been negotiated, they soon begin to see that, like the preliminary subjects of the so-called ancillary sciences, the hospital knowledge of their professional subjects is only a further though more complete preliminary to the efficient practice of the healing art. Hospital and ordinary practice essentially deal with different aspects and stages of disease; hospital patients are usually acutely ill or well advanced in chronic disease, and mainly require curative or merely palliative treatment, whereas ordinary practice is largely concerned with minor ailments, especially dyspepsia, and the early stages of disease, and should, accordingly, be largely preventive. There is therefore a new aspect of medicine before the recently qualified medical man, even after he has had the great advantage of a resident appointment. When launched into practice he finds that he is at sea, and often the landmarks of definite organic disease on which he has been accustomed to rely in hospital work fail him. This is much more marked now than in the old days of apprenticeship, when a medical student began his career as an unqualified assistant and then did his hospital work before going up for his examinations. A return to this plan is impossible; is there any substitute? Possibly Sir James Mackenzie's idea of the appointment to teaching hospitals of one or more physicians who have spent ten or more years of their professional life in general practice might in some degree meet this need, especially if in connexion with the out-patient department there was an outdoor visiting department, as in some dispensaries, under the supervision of this new type of hospital physician.

(C) Graduates who after holding resident appointments have decided to aim at a consulting and hospital career require further opportunities for clinico-pathological work; a certain number in the past have managed to obtain it, largely on their own initiative, by holding posts such as registrars at hospitals or assistants in the pathological or physiological laboratories, or university studentships. Beit fellowships and grants from various scientific bodies have also enabled men to devote themselves to various lines of research. More opportunities for this line of work will, it may be expected, now become available in connexion with the whole-time directors of clinical units, where help and inspiration might also be given to men from a distance. This is the period for the training in systematic investigation of the future teacher in medicine, who should thereby learn how to direct others in his turn, and with them to advance the science of medicine.

II.

The continuous education of the general practitioner. A continuous process of self-education depending on reading the medical periodicals and textbooks and by keeping careful notes of cases, aided to some extent by attendance at the local medical society, is, of course, possible. Many men no doubt carry out the ideal so appropriate to England, which has been called "the land of individual effort," but the difficulties are great, and it is not to be wondered at that the good resolutions made at the outset fail in the face of adverse circumstances, such as overwork and want of urgent stimulus, to maintain this high ideal. Some men, more fortunately placed by being able to use opportunities in connexion with a local hospital, find the way easier. Local hospitals are a comparatively untapped source for organized graduate instruction, and there should not be any difficulty in arranging demonstrations and a more extended system of clinical assistantships; and in the future the Ministry of Health may multiply these facilities, among which attendance at venereal, tuberculous, psychiatric, and other clinics may play a part. The benefit to the teachers would also be considerable; this was well put more than a hundred years ago by Lyman Spalding[3] to a colleague who proposed to resign his professorship: "Look at the Princes or rather the Fathers of Physic. . . . What has put them at the head of the profession? Nothing but their being compelled to labour, and annually to review their profession, and incorporate with their old stock all the new improvements. Show me a man in private practice who does this annually. He is not to be found. But your friends say that you can do this, yet stay at home. I acknowledge this, but tell me honourably, will you do it? No, Sir, you have no inducement."

III.

Periodic courses of instruction so as to keep practitioners, particularly those isolated in country districts, up to date in recent methods of diagnosis and treatment. They thus learn what can be expected from expert pathological investigation, and gain a broader outlook from contact with other minds and men. These refresher courses should be taken every five years or oftener, and should be both general and special in character, dealing with clinical medicine, surgery, and gynaecology, and also with the special branches, such as ophthalmology, laryngology, orthopaedics, and radiology. The latter should be so arranged in series that a man could either get a good elementary course in a comparatively short time or by taking more elaborate courses and devoting himself entirely to the subject could eventually become qualified for this special branch of work. The instruction should be essentially practical rather than didactic, with demonstrations in preference to set lectures. Too much stress can hardly be laid on the importance of providing ample

facilities for clinical work, particularly in the special courses in which clinical assistantships should when possible be available, so that the technique of diagnosis and treatment can be thoroughly mastered.

A Graduate Hospital School.

The graduate instruction should be centred in a large hospital with which neighbouring special hospitals may be affiliated, and the organization of the extensive facilities available in London should be carried on at a central bureau. The graduate schools in the provinces should also be co-ordinated with the central organization, which may most conveniently have its home in London. Centralization, especially in London, where much time is necessarily spent in going from one hospital to another, is important. The hospital should be entirely devoted to graduate teaching, for general experience proves that undergraduate and graduate instruction cannot be satisfactorily carried out at the same time and in the same institution. Such a hospital, fully equipped with modern laboratories, would take a long time to build under present conditions; and as it is most important that such a hospital should be in working order at the earliest possible moment, it has been suggested that some teaching undergraduate hospital should be given up to graduate instruction. The teaching staff of the graduate hospital and school raises some difficult points; its members should be well known for their teaching ability and in the full tide of their energies. Such men would of course be engaged elsewhere, and in order to obtain their services some plan by which they could be seconded from their existing chairs without losing them would be necessary. A period of years—five or more—has been suggested, but this would make it very difficult to keep their permanent posts open, and it would be better that they should take service at the graduate hospital for short terms of a few months in each year. If the graduate hospital is started *de novo* there would be much less difficulty than in the event of a teaching hospital with its staff being taken over for graduate instruction. In the latter case some of the original staff would necessarily have to make room for the temporary service of outside teachers, and, unless an alternating service, such as obtains in some American hospitals, be adopted, the question of providing an equivalent position would have to be faced.

The duration of these courses also requires consideration, as a man can rarely spend many weeks away from his practice and is then naturally disinclined to sacrifice the whole of his hard-earned holiday. Time is money, and though time thus expended is a good investment, the available capital is too often small. As a result the courses in this country for general practitioners have usually been short and intensive—lasting two or three weeks—such as those at St. Bartholomew's Hospital before the war, which were held in the summer vacation as most convenient both

for the general practitioners and from the point of view of the undergraduate school. In 1909, at the International Congress at Buda-Pesth, the opinion was definitely expressed that the State should provide these courses free of charge, and, according to Abraham Flexner,[2] the Central Committee for post-graduate education, with its head quarters in Berlin, had in 1912 organized gratuitous courses for practitioners in forty-eight of the larger cities of the German empire. In this country as the State, through the University Grants Committee with the concurrence of the Board of Education, now subsidizes undergraduate teaching, it is only logical that it should also assist in graduate instruction, and there is reason to believe that it would adopt a sympathetic attitude to this proposal. If in the future a general medical service subsidized by the State comes into being, as seems not improbable, the duty of the Government to provide medical men engaged in such work with periodic study leave would be a natural corollary, so as to correspond to the condition of service in the navy and army. In such conditions a course of three or more months would be practicable and appropriate, especially if some step in promotion, a higher diploma or degree, depended upon attending and showing evidence of having benefited by a somewhat prolonged course.

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[1] H. D. Arnold, *Boston Med. and Surg. Journ.*, 1913, clviii, 265. [2] A. Flexner, *Medical Education in Europe*, 318, 1912. [3] Vide H. M. Hurd, *Johns Hopkins Hosp. Bull.*, Baltimore, 1919, xxx, 125. [4] J. B. Murphy, *Journ. Amer. Med. Assoc.*, Chicago, 1911, lvii, 5.



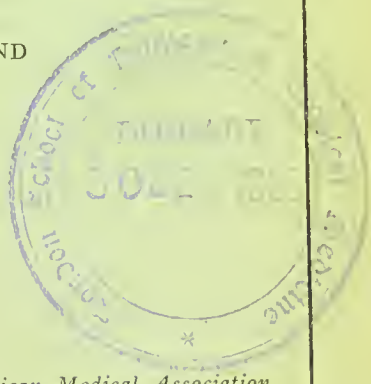
4.

THE CHANGE OF TYPE OF DISEASE

SIR HUMPHRY ROLLESTON,
K.C.B., M.D., F.R.C.P.

Emeritus Physician, St. George's Hospital; President, Royal Society of Medicine

LONDON, ENGLAND



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THE CHANGE OF TYPE OF DISEASE*

SIR HUMPHRY ROLLESTON,
K.C.B., M.D., F.R.C.P.
Emeritus Physician, St. George's Hospital; President, Royal Society of Medicine
LONDON, ENGLAND

Alteration of type of acute disease—a problem which exercised our professional ancestors, notably Sydenham—has recently come under discussion especially in connection with epidemics prevalent during the war, and may therefore serve as the subject for a few remarks. Although the debate rages mainly between the epidemiologists and the bacteriologists, the outcome is of great interest to the clinician.

Sydenham, whose position as an epidemiologist has been defined by Major Greenwood,[1] pointed out that acute diseases showed (1) a long period evolution with a rise, decline and fall, extending over centuries, and (2) seasonal variations with waves measured in months so that their character and their reaction to treatment varied at short intervals, a method successful in one epidemic becoming dangerous in a subsequent outbreak. Though, as Crookshank[2] points out, Ballonius (1574) anticipated him, Sydenham also (3) postulated the theory of epidemic constitutions to the effect that a special influence—telluric or climatic—becomes dominant and impresses some peculiar features on the clinical manifestations of diseases prevalent at the time to the exclusion of other types or symptoms, the amplitude of this wave being measured in years. Greenwood translates the much discussed term epidemic constitution as meaning that the non-specific secondary infections, such as those so plentifully exemplified in measles and influenza, are as important from the point of view of morbidity and

* Read before the Section on Practice of Medicine at the Seventy-First Annual Session of the American Medical Association, New Orleans, April, 1920.

1. Greenwood, M.: Proc. Roy. Soc. Med. (Sect. Epidem.) **12**: 55 (July) 1919; Brit. M. J. **2**: 405 (Sept. 27) 1919.

2. Crookshank, F. G.: Proc. Roy. Soc. Med., London (Sect. Epidem.) **13**: 159, 1920.

mortality as the specific causes of the disease. Sydenham, of course, had no knowledge of the *verae causae* of disease or bacteriology, but with this knowledge Hamer, following the lines of the English Hippocrates, eloquently argues that members of the "catarrhal group of diseases," namely, cerebrospinal fever, acute poliomyelitis, encephalitis lethargica and influenza, are variants of the same morbid process, i. e., diverse manifestations of the same virus, under special conditions; this represents the most extreme divergence of the epidemiologic from the bacteriologic points of view.

That the type of disease changes has been disputed and it has been asserted that the supposed change is in the mental outlook of the observers. Markham,[3] in 1864, vigorously attacked the theory that there was a change in type of disease, and controverted the view that about 1832, after the epidemic of cholera, the type of fever previously sthenic became asthenic so that bleeding was no longer well borne. He in fact suggested that the notion of a change of type of disease was largely invented, years after 1832, to explain the abandonment of bleeding in inflammations and fevers.

At the present time no one doubts that certain diseases have shown changes of type; scarlet fever is universally recognized to have become much milder; Brownlee[4] finds that though there is not any evidence that the amount of scarlet fever (or the infectivity of the causal agent) is less now than in the latter half of the last century, the mortality (or the virulence of the organism) has greatly fallen. Pneumonia is another example of a disease in which the virulence, as shown by the mortality, has increased, and the type of the disease has since the reappearance of influenza in 1889-1890 undergone some change, the disseminated form being common and the frank lobar pneumonia less frequent. The seasonal variation of type was shown in a well-marked degree by the two waves of influenza in the spring and autumn of 1918, the high rate of thoracic complications and of mortality in the second wave being associated with *Streptococcus hemolyticus* and the pneumococcus.

3. Markham, W. O.: Bleeding and Change in Type of Diseases, the Gulstonean Lectures for 1864, Brit. M. J., 1864; London, Churchill, 1866.

4. Brownlee, J.: Pub. Health, London **28**: 131, 1914-1915.

In the Royal Navy the spring wave of influenza was accompanied by 0.4 per cent. of complications and 0.03 per cent. mortality, whereas in the autumn wave the incidence of complications was 6.8 per cent. and of deaths 2.8 per cent.[5]

It would, indeed, be remarkable if diseases always respected the types conveniently accorded them in textbooks, for, as Sir Clifford Allbutt long ago insisted, a disease is not a fixed entity but a reaction of the body to some infection or irritant.

Alterations in the clinical features of diseases usually regarded as typical may be due to several causes. It is obvious that variations may occur, on the one hand, in the causes as regards their virulence and, on the other hand, in the resistance of the patient. A change in the clinical manifestations may therefore be explained on bacteriologic grounds, by the supposition of changes in the soil, or of changes in both these factors. The permutations and combinations thus possible would explain many changes in the character of disease; thus, a highly virulent state of the infective agent acting on a susceptible individual with greatly lowered resistance would tend to produce a fulminating attack, whereas an attenuated virus acting on an individual with good resistance might fail to produce any effect or cause an abortive illness, thus conferring immunity.

The difficult question arises whether or not bacteriology and changes in the resistance of the race, either comparatively permanent as the result of environment or transient from disease or other factors, will together satisfactorily explain alterations in the clinical type of disease; or whether there is some further and mysterious factor, such as is implied by some epidemiologists, which has yet to be thoroughly elucidated. Though I shrink from expressing a dogmatic opinion, the first explanation seems the more attractive.

BACTERIOLOGIC REASONS FOR CHANGE IN TYPE OF DISEASE

Bacteria may vary in their pathogenicity either as the result of external influences or spontaneously when no such factor is obvious. External conditions, such as temperature and other climatic factors, concentration of their carriers and hosts, and conditions of

5. Hill, R.: J. Roy. Sanit. Inst. **40**, 1919.

passage, may influence the vitality and virulence of micro-organisms. It has also been suggested that micro-organisms have cycles of infective activity following periods of rest, and that this cycle explains by its periods of high infectivity the occurrence of epidemics; the influenza virus appears to have a cycle of thirty-three weeks, and the various strains of the infective agent of measles cycles of eighty-seven, ninety-eight and 110 weeks.[6] It would naturally follow, though proof is required, that further variations in the virulence of the germ might alter the character of the clinical manifestations. Then again, the same specific organism may give rise to clinical features of varying character; thus, the influenza bacillus may be associated with symptoms of coryza, meningitis, rheumatic fever, or of typhoid fever; and this variation may be seen in the same epidemic, as in the epidemic in Hertfordshire of protean symptoms due to *M. catarrhalis* reported by Merwyn Gordon and Dunn. These variations may, it is true, be eventually explained in some other manner, namely, by the existence of some additional factor, such as an ultramicroscopic organism or by ultramicroscopic bodies of the nature of enzymes (enzyme theory of disease) associated with the bacteria.[7]

Another bacteriologic explanation for change in the clinical type of disease is naturally attractive. In a disease such as enteric fever, variations in different outbreaks may be due to different strains of the infecting organism; this has been shown by the division of enteric into (*a*) typhoid due to *B. typhosus* and (*b*) paratyphoid A and (*c*) paratyphoid B, both with a lower mortality; and so what might have been regarded as a change of type is really explained by the occurrence of different though allied infections. In cerebrospinal fever the different types of meningococci may be correlated with different clinical types; thus Dopter[8] showed that the predominant infective meningococcus before the European war was Type A (Gordon's Types I and III), and that later it became

6. Brownlee, J.: Proc. Roy. Soc. Med. (Sect. Epidem.) **12**: 77 (Aug.) 1919; Lancet **2**: 856 (Nov. 8) 1919.
7. Dixon, J. Gurney: The Transmutation of Bacteria, Cambridge, 1919, p. 153.
8. Dopter: Ann. d'hyg. publ. et. de méd. lég. Series 4 **29**:144, 1918.

Type B (Gordon's Types II and IV); and Netter [9] correlated the greater frequency of septicemic cases and lesions such as rashes, arthritis and iridocyclitis with this change to Type B. The differentiation of the types of pneumococci is another example of the influence of different strains or types of an organism in determining different clinical types of a disease previously regarded as due to one organism. The different clinical types of bacillary dysentery due to *B. dysenteriae* Shiga and *B. dysenteriae* Flexner have been well established during the war. This explanation of different clinical types as depending on different strains or types of the infecting organism is so logical that it is tempting to adopt it widely, and perhaps especially for diseases in which the nature of the infecting organism has not yet been established.

The occurrence of secondary infections, such as the pneumococcus and *Streptococcus hemolyticus* in measles and influenza, is a powerful factor in the change of type of disease, and has already been mentioned as an explanation of Sydenham's epidemic constitutions. It may be surmised that the liability to secondary infections may depend either on a previous want of resistance in the patient or on such a virulent primary infection that the patient's resistance is at once broken down.

The influence of prophylactic inoculation in preventing the incidence and modifying the course of smallpox, typhoid and pneumonia (F. S. Lister) are too well known to require elaboration. But attention may be directed to the suggestive work of Vaughan [10] and his collaborators on the question of a nonspecific immunity conveyed by common infections, especially those of the respiratory system, against others by which the severity of the subsequent disease among those, especially town inhabitants, is diminished by a previous infection.

CHANGE IN THE RESISTANCE OF THE PATIENTS

Long ago a change of type of disease—an alteration from the "sthenic" to the "asthenic" form of fevers—was thought to have occurred as the result of the cholera and influenza epidemics of 1832 and 1833

9. Netter, A.: Bull. et mém. Soc. méd. d. hôp. de Paris, Series 3, **41**: 883, 1917.

10. Vaughan, V. C., and Palmer, G. T.: Mil. Surgeon **46**: 1 (Jan.) 1920.

(Watson). And the altered conditions of life entailed by the concentration in cities of persons previously living in country districts has been brought forward to the same effect, though this is rather contrary to Vaughan's contention mentioned above. In our own time influenza has exerted an influence in the form of pneumonia, at any rate to the extent of making the disseminated or bronchopneumonic type commoner.

The varying resistance of the population to disease is concerned with both the periodicity of disease and the character of the epidemics. The epidemics of measles in Great Britain occurring at intervals of from eighty-seven to 110 weeks (Brownlee) are commonly assumed to depend on the accumulation of susceptible children in sufficient numbers, though, as is pointed out above, another factor may be considered. In isolated districts where measles rarely occurs, the introduction of the infection causes a widespread and severe epidemic, as in the classical instances of the Faroe Islands (1781 and 1846), Fiji (1875 and 1907), in the neighboring island of Rotuma in 1911,[11] and in the Shetlands. These examples suggest that the absence of immunity is responsible. On the other hand, the gradual diminution in the severity of at least the outward manifestations of syphilis might be thought to depend to some degree on a general approach to relative immunity; but here the question of treatment comes in, as it does in regard to diphtheria, which has also been thought to have independently become less virulent.[12]

The resistance of individuals and races is obviously influenced by environment, such as overcrowding, overwork, bad food and alcoholism, and thus both the incidence and the severity of the disease—conditions which must be distinguished from each other—become increased. Among the Italian armies during the war a tendency to get manifestations of scurvy in various infections was noted. In his recent Lumleian lectures at the Royal College of Physicians of London, Sir John Rose Bradford expressed his opinion that war nephritis, which has been regarded as a special form, was only acute nephritis occurring on a large

11. Corney: Proc. Roy. Soc. Med., London (Sect. Epidem.) **6**: 130, 1913.
12. Duncan, E.: Change of Type in Disease, Glasgow M. J. **90**: 1, 1916.

scale in young and previously healthy men. It may, however, be difficult to differentiate between the effect of improved hygienic conditions, on the one hand, and of diminution in the virulence of the infecting organism, on the other; thus, the disappearance of typhus from Glasgow and other towns was naturally ascribed to improvement in the living conditions; but Brownlee points out that this disease simultaneously subsided in the West Highlands and Ireland, where no such sanitary alterations occurred, and argues that the virulence of the infecting organism became attenuated.

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5.

DYSPEPTIC AND OTHER REFERRED SYMPTOMS ASSOCIATED WITH DISEASE OF THE GALL BLADDER AND OF THE APPENDIX.

A BRITISH MEDICAL ASSOCIATION LECTURE GIVEN TO THE NORFOLK BRANCH AT NORWICH, DEC. 19TH, 1919.

BY

SIR HUMPHRY ROLLESTON, K.C.B., M.D., F.R.C.P.,

EMERITUS PHYSICIAN, ST. GEORGE'S HOSPITAL; PRESIDENT OF THE ROYAL SOCIETY OF MEDICINE.

BY referred symptoms is meant those that do not at once suggest local disease of the organ really responsible or that are remote in point of place; they might be described as masked or, as they are often the first manifestations of disease, inaugural, or as larval or *fruste*.

The discussion of this subject has its difficulties; to consider separately the gall bladder and the referred symptoms caused by its disease and then appendicitis and its referred symptoms might be the simplest course; but as this would lead to some tedious repetition it appears advisable to take the symptoms and to refer incidentally to their causation. Most of the infective complications of gall bladder and appendix disease, such as the various forms of hepatic suppuration, empyema and fistulae, and intestinal obstruction due to adhesions, bands or gall stones, will not be mentioned. Except when specially stated, the disease of the gall bladder and appendix is not acute but either the result of a past attack of acute inflammation, such as fibrosis, adhesions or calculi, or a recurrent or chronic inflammation. Further, it may be pointed out that what we commonly call a "chronic appendix" is more often the result of a past attack than a progressive and chronic inflammatory process.

Mechanism of the Production of Symptoms.

The question how morbid changes in the gall bladder and appendix induce symptoms in other viscera and distant parts will be touched on in connexion with these manifestations, but the various mechanisms that may be at work in different cases may be tabulated here as (1) Reflex, (2) Mechanical, (3) Toxic, (4) Infective.

1. *Reflex.*—Irritation in the appendix or gall bladder may cause hypertonus of the stomach and spasm of, or failure to relax on the part of, the pyloric or ileo-caecal sphincter, leading to gastric or iloal stasis and so to excess of acid or to toxaemia. Vigorous contraction of the stomach extending to the pylorus has been watched by Moynihan, during the course of laparotomy on patients with appendix dyspepsia, and Hurst[9] has seen visible spasm of the middle of the stomach when the appendix is manipulated under the *x*-rays. The pyloric spasm or want of relaxation of the pylorus has been regarded as a protective mechanism. In the case of chronic appendicitis failure of relaxation of the ileo-caecal sphincter is thought by Hurst to be commoner than spasm. Caecal stasis from inhibition of peristalsis or from enterospasm (spastic constipation) may be due to chronic appendicitis; when situated in the pelvis a chronically inflamed appendix may reflexly inhibit defaecation (dyschezia, Hurst[10]). Appendicitis may reflexly lead to increased frequency or inhibition of micturition through an irritated focus in the spinal cord (Mackenzie); and chronic irritation of the appendix may be responsible for cardiac irregularities.

The reflex pain in the epigastrium, which is so common in appendix and gall-bladder dyspepsia, has given rise to some discussion; Mackenzie maintains that it is in the peripheral terminations of the sixth and seventh dorsal nerves in the abdominal wall, and that this depends on the irritated focus in the spinal cord, whereas Hurst[11] argues that the pain is visceral, in the pyloric end of the stomach, and due to the peristalsis. They both, however, agree that the epigastric tenderness is due, not to pressure on the stomach, but to the irritated focus in the spinal cord which causes an exaggerated sensory effect when the skin, and especially the muscles and the underlying subperitoneal tissues, are pressed on. The referred cutaneous pain in gall-bladder disease may occasionally spread to the top of the right shoulder, and extend down the outside of the arm, so that patients may for years be treated for "neuritis" until the passage of a gall stone at once brings relief (Mackenzie).

Very often the appendix when removed shows little naked-eye change to correspond with the prominent symptoms that then disappear; microscopic examination may be necessary to reveal the evidence of past inflammation in its walls, especially fibrosis in the submucous coat, and often, as I have seen in many sections, the changes are very slight. The ganglion cells of Auerbach and Meissner's plexuses have been found to show degeneration (Pfeiffer). Stimuli generated in the appendix travel by the sympathetic to the spinal cord, and by constant repetition give rise to a persistent irritable focus in the spinal cord, and so to a reflex extension of impulses. In women the right ovary and tube are very often matted together with the appendix, infection readily passing from one to the other. Ovarian and uterine dyspepsia, analogous to those now under consideration, have been described.

2. *Mechanical.*—Pericholecystitic adhesions may embarrass the movements of the stomach, interfere with the passage of food through the pylorus, or even lead to an hour-glass stomach. Though often the legacy left by cholecystitis, these adhesions may be due to duodenal or gastric ulcer. Peri-appendicular adhesions may cause intestinal stasis and so toxaemia, and the same result, only in a more marked degree, may be produced by an appendix adherent across the lower part of the ileum. In some cases adhesions about the appendix or the gall bladder may possibly alter the radiation of pain; adhesions around an inflamed gall bladder have been thought to cause left-sided pain, and adhesions between an inflamed gall bladder and the peritoneal coat of the appendix to explain the pain referred to the right iliac fossa (Tripier and Paviot).

3. *Toxic.*—Absorption of bacterial toxins from the gall bladder or appendix may set up general toxaemia, cause myocarditis, and damage the mucous membrane of the stomach and intestines, thus giving rise to haemorrhage. Toxic absorption from the inside of the organ is probably more often an important factor in the case of the gall bladder than of the appendix.

4. *Infective.*—Micro-organisms from the appendix or gall bladder may infect the kidneys, especially the right. Infection of the gall bladder is prone to spread to the pancreas, and local thrombo-phlebitis of branches of the iliac veins, secondary to appendicitis, may give rise to small pulmonary emboli and pleurisy; malignant endocarditis has been found to be associated with gall-bladder infection (Leva collected nine cases as long ago as 1892) and with appendicitis. As is well known, inflammation of the appendix and gall bladder are often associated; although the true relations of the two infections may vary, it seems probable that most commonly the appendix is the earlier affected and that from this focus the gall bladder becomes infected. The changes left in the appendix may be comparatively slight while there is considerable cholecystitis.

Dyspepsia.

The general recognition that disease of these two appendages of the alimentary canal may produce definite symptoms of gastric and duodenal disorder with few or no localizing symptoms is comparatively recent and is due to the observations on "the pathology of the living" (W. J. Mayo, Moynihan, Paterson, S. Fenwick); though had abdominal surgery been active in his time there can be little doubt that John Hilton would have expanded his conclusions on "sympathetic pains on the surface of the body connected with derangements of the internal viscera," and would have laid stress on the connexion between reflection of pain from the gall bladder to the stomach and duodenum on the one hand and the origin of the hepatic diverticulum from the foregut on the other.

As the dyspeptic symptoms in a certain number of cases depend on an organic lesion, resist symptomatic treatment,

but yield to operative interference, the term "surgical dyspepsia" has arisen.

This attractive explanation, however, must not lead to the conclusion that dyspepsia is always, or, indeed, usually, due to an organic cause, and that the short cut to a cure is by way of the knife. A high estimate, at least for a physician, is that of M. J. Lichty, among whose 1,500 patients with gastro-intestinal disorders 600, or 40 per cent., were found at operation to have disease of the gall bladder or appendix. It is, moreover, important to consider how far medicine can re-assert its position by in its turn preventing infection of the gall bladder and appendix. With regard to the gall bladder we know that cholecystitis is due to various foci of infection: from the vermiform appendix, from the intestines, particularly in enteric fever, from the stomach and teeth, and from the tonsils by the blood stream; for Rosenow and Brown have shown the great frequency of haemolytic streptococci in inflamed gall bladders, argue that *B. coli*, formerly considered as one of the two commonest causal organisms of cholecystitis, is often a secondary invader, and from experimental observation believe that these streptococci in the tonsils have a special tendency to settle down in the gall bladder. The etiology of appendicitis has been much debated; probably several causes are at work; but the elimination of septic foci in the mouth, tonsils, and nasopharynx, the supervision of food supplies, and early attention to signs of intestinal infection and constipation would diminish the frequency of this surgical disease. In connexion with the prevention of tonsillitis it is appropriate to refer here to Dr. G. I. T. Stewart's observations showing the causal relation of bad teeth to inflammation of the tonsils.

Gall-bladder dyspepsia is sometimes spoken of as the result of gall stones rather to the exclusion of cholecystitis, whereas a broader view holds the field as regards appendix dyspepsia, which is ascribed to appendicitis, and not solely to the faecal concretions. The correct view is that in the main the cholecystitis causes both the symptoms and the gall stones. It is of course true that single cholesterin calculi may form without any antecedent inflammation of the gall bladder, though they may subsequently favour the occurrence of cholecystitis. These calculi are much less common than those due to cholecystitis, and, I believe, may form an exception to Sir Berkeley Moynihan's dictum that gall stones always cause symptoms.

The evidence that referred dyspepsia is due to disease of the appendix or gall bladder rests on the disappearance of the symptoms after removal of a chronic inflamed appendix or gall bladder, and is analogous to the familiar relief of headache by removal of a decayed tooth. Cases not relieved by gastro-enterostomy have subsequently been cured by appendicectomy, and it has been urged that no laparotomy for disease of the stomach or duodenum, especially if no obvious disease in these organs be found, is complete without examination of the gall bladder and appendix. It was noted by Soltau Fenwick that patients with a peculiar

form of gastric hypersecretion were prone to die from appendicitis, the real explanation apparently being that the hypersecretion was due to latent appendicitis which subsequently flared up. The diagnosis of gall bladder or appendix disease as the cause of dyspepsia in a given case may be very difficult; in both instances the primary lesion may be latent, there may be an absence of any history of an acute abdominal attack, and there may be no local tenderness over the gall bladder or appendix.

The dyspeptic symptoms associated with chronic disease of the gall bladder and appendix, which are commoner in women, show considerable variation, and it is very doubtful if any differential diagnosis as to which organ is primarily at fault can be made on the characters of the subjective manifestations only. Pain and tenderness on pressure in the epigastrium and flatulence are the most constant symptoms; the pain may be persistent, but is often at once made worse by food; or it may come on after an interval of hours, as in duodenal ulcer; possibly the pain directly after a meal in cases of cholecystitis or gall stones may be caused by vigorous contractions in the gall bladder as well as in the stomach. Heartburn is common, and vomiting may follow. The symptoms are often of long duration, and their obstinate resistance to remedies, such as bismuth, alkalis and food, that relieve ordinary indigestion, is a prominent feature. The prolonged pain and toxaemia, especially in cases with appendicitic adhesions, may induce neurasthenia and recurrent headaches. The condition of the gastric juice varies; there may be hyperchlorhydria, a normal or a much diminished amount of hydrochloric acid. Among 156 cases of gall-bladder disease, J. A. Lichty found that 84, or 54 per cent., showed hyperchlorhydria; 41, or 26 per cent., a normal; and 31, or 20 per cent., a diminished amount of HCl. Among Sherren's 20 cases of gall-bladder disease there was an absence of free HCl in 16.

There is a similar variation in appendix dyspepsia, and Fenwick considers that the condition of the appendix is an important determining factor; when there is active irritation, such as an enterolith or ulceration, hyperchlorhydria results, whereas with a merely thickened, adherent, or kinked appendix the symptoms are those of chronic gastritis with diminution or absence of HCl. He regards the hypersecretion as reflex, but there is the alternative view that spasm, or failure to relax on the part, of the pylorus leads to retention of food and accumulation of HCl. In a comparatively small number of cases there is haematemesis, which may be considerable and suggest gastric or duodenal ulcer. In my limited experience this has seemed less rare in appendix than in gall-bladder dyspepsia, but in a large series of cases operated upon in the Mayo clinic gastric haemorrhage and symptoms were present in 5 per cent. of gall-bladder infections and in 2 per cent. of appendicitis cases (Crispin). It is tempting to regard the haemorrhage as due to toxaemia, but the source of the poison is not always obvious, as the appendix may be

merely obliterated. It is true that Paterson and others ascribe the symptoms of appendix dyspepsia to toxaemia due to intestinal stasis, and on this hypothesis an exacerbation in the intestinal toxaemia might be postulated as the exciting cause of haematemesis. But considerable gastro-intestinal haemorrhage is rare in acute appendicitis in which the toxaemia is so much more obvious. It is somewhat fanciful to imagine that there is sufficient reflex dilatation of the vessels in the gastric mucosa to produce weeping, but this is perhaps suggested by the peritoneal flush over the pylorus in these cases of appendix dyspepsia. Soltan Fenwick's explanation of gastric haemorrhage is probably more satisfactory—namely, that as a result of long-continued exposure to gastric juice with two to five times the normal percentage of free hydrochloric acid the gastric mucous membrane becomes inflamed, acutely congested, and shows haemorrhagic erosions. In some instances a gastric or duodenal ulcer is associated with appendicitis or gall-bladder disease. Among 1,078 cases of gastric and duodenal ulcer at the Mayo clinic 40 per cent. showed disease of the appendix and 9.7 per cent. disease of the gall bladder (Eusterman). These figures perhaps explain my impression that haematemesis is less rare in appendix than in gall-bladder dyspepsia. In rare cases gastro-intestinal haemorrhage may be due to ulceration of the gall bladder or of the ampulla of Vater when a gall stone is impacted there, but in the latter instance the symptoms would be those of intermittent hepatic fever.

Diagnosis.

The differential diagnosis of appendix and gall-bladder dyspepsia from gastric and duodenal ulcer presents considerable difficulties, but an *x*-ray bismuth or barium meal may give valuable assistance in providing the positive evidence of gastric or duodenal ulcer on the one hand, or of appendix or gall-bladder disease on the other. Hurst[9] has tabulated the *x*-ray results in favour of the presence of a chronic lesion of the appendix, and points out that the tenderness of the appendix—the most important sign—may be missed without the guidance of *x*-rays, as the organ may be displaced when pressure is applied; other signs are those of adhesions, ileal and caecal stasis, and though hypertonus of the stomach, which empties itself with abnormal rapidity, may be present, this is both much less frequent and less well marked than in duodenal ulcer, the spasm due to chronic appendicitis being more commonly in the middle of the stomach. From careful examination of a large number of cases Spriggs finds that the following indications of chronic disease—namely, partial filling of and stasis of barium in the appendix, constrictions, dilatations, and concretions—can be demonstrated by the *x*-rays. Adhesions around the gall bladder are characterized by a high position of the stomach, displacement of the pylorus to the right, distortion of the duodenal cap and of the hepatic flexure of the colon, and retention of food in the stomach for six to eight hours.

Opinion differs as to the value of *x*-rays in the detection of gall stones; some American skiagraphists claim that 75 per cent. of gall stones can be thus diagnosed, and Pancoast and Pfahler regard 50 per cent. as a conservative estimate.

Turning to the other means of diagnosis, the pain of gastric ulcer is relieved by food and by alkalis, and in duodenal ulcer there are usually periods of complete freedom from symptoms and hyperchlorhydria; in both these conditions occult blood in the faeces is much more likely to be present than it is in the referred dyspepsias. In favour of an appendicular origin are radiation of pain towards the right iliac fossa, with local tenderness there or on rectal examination, and Bastedo's sign—namely, localized pain and tenderness on pressure in the right iliac fossa on inflation of the colon. Deep tenderness to the right of the spine between the seventh and eleventh ribs is regarded as pathognomonic of pericholecystitic adhesions by Friedman, who considers it more valuable than *x*-rays. The tenderness has been ascribed to extension of inflammation to the chest wall so as to set up a mild neuritis.

It must of course be borne in mind that both the appendix and the gall bladder may be diseased, and that removal of one may not cure the symptoms. A few words may be said about the way in which disease of the gall bladder and appendix may imitate each other. An elongated gall bladder with a Riedel's lobe or peritoneal adhesions between the two organs may explain why in some cases of cholecystitis a diagnosis of appendicitis is corrected only at laparotomy. The converse mistake is less common, but may be due to an appendicitis close to the right lobe of the liver so that it becomes adherent to the gall bladder, or to other less obvious causes. In this connexion the following case is interesting.

A man aged 32 years had jaundice when 14 years of age, and since then had had repeated attacks of jaundice, much flatulence, and general ill health. Two months before I saw him he had had an acute abdominal attack regarded as appendicitis, and was much jaundiced. When seen there was tenderness over the gall bladder, and there was nothing palpable or any tenderness on the right side per rectum. The pre-operative diagnosis was recurrent cholecystitis, but the gall bladder was found to be perfectly normal, and there was a tense mucocele of the appendix. He then completely recovered, went through the war, and was reputed to be well in December, 1919. Possibly the attacks of jaundice were due to disturbance of Meltzer's law of contrary innervation. The sphincter at the lower end of the common bile duct and the muscular fibres of the gall bladder are antagonistic; when the gall bladder contracts the sphincter relaxes; if from reflex disturbance the sphincter fails to relax during contraction of the gall bladder, the pressure of bile in the ducts will rise, and jaundice, and even colic, will result.

Chronic Colitis.

Chronic colitis with exhausting diarrhoea is occasionally due to continued infection from the gall bladder

or appendicitis. This diarrhoea and serious wasting may occur without any localizing symptoms, and with little in the history to suggest the responsible focus. Martin reported one of the first cases of this kind in a man without any signs pointing to appendicitis; exploratory laparotomy showed a thickened appendix with a dilated cavity communicating with the caecum; the appendix contained one or two enteroliths and extremely foul-smelling material, resembling in this respect the motions. Frequent bulky offensive motions with excess of fat occur in chronic pancreatitis, which may result from gall-bladder infection, or from a stone in the common duct.

Glycosuria and Diabetes.

It is now recognized that glycosuria or diabetes, if, indeed, any real distinction between them should be drawn, may be due to pancreatitis set up by infection associated with gall stones. It is not a common sequel, and, though a calculus may get into the common bile duct without obvious symptoms, it must be very rare for gall stones to cause diabetes when their presence is entirely unsuspected. The surgical treatment of certain cases of diabetes practised by Sir A. W. Mayo-Robson is an illustration of preventive surgery, as it aims at the removal of the cause before the resulting pancreatitis has reached an extreme stage.

Cardiac Symptoms.

The dyspepsia due to appendix or gall-bladder disease may be associated with palpitation, irregularity, and substernal distress. M. J. Lichty found that in appendix cases the cardiac disturbance was usually functional only, whereas in gall-bladder disease, either alone or combined with appendicitis, the resulting cardiac disease was more serious. Absorption of toxins from an inflamed gall bladder or ducts may cause myocarditis, anginoid symptoms, and cardiac failure. In a paper on chronic cholecystitis as a cause of myocardial incompetence, Babcock records thirteen cases, medical advice being sought, with two exceptions in which biliary colic occurred, for cardiac disorder without any suspicion of gall-bladder trouble. Angina or anginoid symptoms in patients with gall bladder disease may be due to exhaustion of the poisoned myocardium; a specially interesting case, as it raises the question of Graves's disease as a result of gall-bladder infection, is reported by Sears: a woman had intense precordial pain spreading to the left shoulder, a raised pulse rate, an enlarged thyroid, and other symptoms suggesting Graves's disease; an attack of biliary colic led to operative removal of two gall stones and disappearance of all the symptoms. Babcock described a group of his cases in which attacks of angina preceded cardiac failure. The pain of biliary colic sometimes imitates angina, and cases in which attacks of angina have cleared off after frank biliary colic are on record; it has been suggested that as the result of adhesions the pain of

biliary colic may be felt on the left side. The symptoms of existing valvular disease may be intensified; or compensation may be broken down by toxic myocarditis due to gall-bladder infection. It is important to remember this, and also that the cardiac weakness is often entirely due to the gall-bladder disease, and will be cured by surgical treatment; for operation may be considered to be contraindicated by the condition of the heart. Janeway spoke hopefully of operation in these cases if performed under a local and not a general anaesthetic, the danger being more often from post-anaesthetic pulmonary complications. By waiting time may be lost without improvement in the cardiac condition; but in one case of this kind a vaccine made from organisms isolated from the faeces appeared to do good.

Pyelitis and Pyelonephritis.

Pyelitis and pyelonephritis may be due to infection with *B. coli*, either from the gall bladder or from the appendix; as far as I know, this usually occurs in the right kidney and then suggests a local extension of infection. I have seen right-sided pyelitis in a patient with chronic gall-bladder disease and from the comparative severity of the symptoms suggest acute cholecystitis; the difficulty in such cases is to be sure that both conditions are not present. By becoming adherent to the right ureter an inflamed appendix may cause pyelitis and the aspect of the case may be chiefly renal, and from the free haemorrhage even suggest a calculus; cases of this kind, usually after acute appendicitis, have been described by Hunner. I have been told of a case in which the appendix perforated into the ureter. An inflamed appendix situated high up and close to the kidney may possibly infect the pelvis of the organ.

Synovitis and Arthritis.

In common with other infective conditions of the stomach and intestines, appendicitis and cholecystitis very seldom give rise to a chronic or subacute arthritis such as is associated with oral sepsis. Dysentery is the disease in which the most extensive destruction of mucous membrane and opportunities for absorption occur, and yet synovitis is neither common nor, as a rule, severe. Arthritis in enteric fever is somewhat rare, and might be explained as the result of the early septicaemic stage. It seems plausible to suggest that the liver may protect the joints from damage due to intestinal infections. This hypothesis would naturally at once raise the objection that oral sepsis is an, if not the most, important cause of arthritis, and probably acts by infecting the stomach. On this point I would urge that the discharge of pus from the gums into the mouth, though a frequent cause of gastritis, is not so effective in producing arthritis as infection at the roots causing absorption into the blood stream. In rare instances appendicitis, usually acute, is associated with synovitis; this at first gave rise to the view that inflammation of the appendix, like that of the tonsil, both of which

For this advanced and intensive graduate education, extending over one to three years, there is already very considerable demand, and it is rather surprising to learn from the recent Report of the Committee on Graduate Medical Education, appointed by the American Medical Association,[2] that during the year 1919–1920 there were probably four thousand applicants for this form of graduate teaching. The vast majority of these applicants were anxious to specialize in some branch of clinical practice, those aiming at a public health career, or at teaching posts, or at research work in the fundamental subjects of anatomy, physiology, biochemistry, bacteriology, or pharmacology, forming a very small minority. Thus out of 1,021 inquiries for graduate work at the Mayo Clinic, Rochester, since January 1st, 1919, four only were primarily for work in the fundamental branches, though 90 per cent. of the "fellows" taking clinical work as their "major" subject chose pathology as a "minor" subject.

To make the general ideal of this form of graduate education clearer the following extract may be quoted from the above mentioned Report of the Committee on Graduate Medical Education:

> Most of these men need opportunity to work alone, not in classes though under general supervision, for six months to a year in one or more of the fundamental branches. They then need clinical material and laboratory and library facilities for two or more years of intensive work in diagnosis and treatment. They need personal responsibility for patients, inspiration to investigation, keen criticism, and opportunity for fearless discussion with real leaders in their specialty. They need little, if any, formal teaching, of which most of them have already had too much. It is believed that these needs might be met in large measure by medical schools and hospitals if their present resources were more definitely organized with that end in view.

As regards the steps that have been taken in America to meet this want: although the American Committee consider that "opportunities by which graduate students may properly prepare themselves by long periods of work for scientific and skilful practice of clinical specialties are wofully lacking," a very substantial beginning has been made, especially by the Mayo Foundation, to which refereuce may now be made.

Prolonged Graduate Instruction.

The Mayo Foundation for Medical Education and Research was established by Drs. W. J. and C. H. Mayo on a permanent basis in February, 1915, and in the following June the University of Minnesota and the Mayo Foundation entered into an agreement by which the funds and income of the Mayo Foundation are devoted, under the direction of the Regents of the University, to the promotion of graduate work and research in medicine. In 1917 the funds and income of the Mayo

[2] Vide *Journ. Amer. Med. Assoc.*, Chicago, 1920, lxxiv, 1248.

Foundation were transferred entirely to the Board of Regents of the Minnesota University; and the staff, clinics, laboratories, library, and records at Rochester, Minnesota, were also put at the disposal of the University. The graduate school, which is thus extremely well endowed and equipped, is put on the same basis as those of the other faculties, and the graduate student is under the same conditions as a candidate for the degree of Ph.D., say, in chemistry. At the University of Minnesota a student takes seven years to obtain the M.D. degree, and then, if he is accepted as a graduate student, he may after three years' work gain the special degrees of Master of Science (M.S.) or Doctor of Philosophy (Ph.D.) in Medicine, Surgery, Ophthalmology, Obstetrics, Pathology, and so forth. Entrance to the graduate school is not confined to graduates of the Minnesota University, for graduates from other universities are selected on the grounds of their work. For admission the graduates must have the bachelor's degree in arts or science or its equivalent, the doctorate of medicine from an acceptable institution (namely, those in Class A of the American Medical Association's classification) and a year's experience as an intern in an approved hospital or laboratory. This endowment provides fellowships and scholarships for a number of graduates; there are about 17 teaching fellowships of the value of 600, 750, and 1,000 dollars for the first, second, and third years respectively, the fellows doing a small amount of teaching and devoting the whole of the remainder of their time, except a yearly vacation of three weeks, to graduate work leading to a degree. There are also 86 non-teaching Mayo fellowships, of which 60 are in clinical and experimental surgery and 12 in clinical and experimental medicine. As a rule there is only one graduate student a year in each subject, but there is some elasticity in this respect. The competition is severe—thus out of more than 1,000 applicants since January, 1919, 42 fellows have been selected. There is a regular scale of fees. If a student does not promise well, he is got rid of, usually before the end of his second year. Each student on admission selects a "minor" subject which is logically related to his "major" subject—for example, as pathology is to surgery—and is mainly carried on in a laboratory during the first year; in his second year he finishes his "minor" subject and passes an examination in it and in French and German, and devotes himself to his "major" subject; in the third year he does more responsible work; thus a surgeon works in the operating theatre and performs operations of all sorts, and is in charge of the junior assistants; he also writes his thesis for the graduate degree (Ph.D. or M.S.). The Ph.D. degree, which is the most highly prized degree in American universities, as it is not conferred as an honour or compliment, is given for theses of exceptional merit only, and so far only about 5 per cent. of the "fellows" have gained this blue ribbon. The work is done partly at Rochester and partly at Minneapolis, where the buildings of the University of

Minnesota are situated, the students moving to and fro for different phases of their work.

In comparing these facilities with those available in this country it is obvious that no such completely organized scheme exists here. The laboratory work in the "minor" subject—for example, pathology or anatomy—could no doubt be arranged for, on the lines of the "advanced student's" work in other branches of science at the universities and elsewhere; but the third year's work, corresponding to that of chief assistant in a clinic, though open to men at their own hospital, would seldom be obtainable by graduate students from outside, and could hardly be open to American graduates unless they had taken some British qualification.

The organization of the Mayo Foundation and Minnesota University Graduate School is so complete that it has been described at some length, but the idea is being taken up by other universities. Thus the University of Pennsylvania is organizing a clinical graduate school on a considerable scale with opportunities of gaining a graduate degree or certificate. At Philadelphia the Medico-Chirurgical Hospital and the Polyclinic have become a part of the University of Pennsylvania, and form the clinical centre of a graduate medical school. This school, with separate administration offices in the University buildings and a separate dean, has associated with it or affiliated to it a considerable number of the special hospitals in Philadelphia. The central hospital has a service of 300 beds. The object of the University of Pennsylvania in establishing this graduate school in medicine is so to train the acceptable graduate in medicine that he shall be properly qualified to begin special medical practice or teaching, and be stimulated to "productive" medical research, and in addition to perform the public service of affording reputable physicians opportunities to keep in touch with medical advances by coming in contact with the newer things in medicine as exemplified by the practice of masters of the various fields of medical work. It is proposed to give courses of one and in certain subjects of two years' duration which, if satisfactorily followed, may lead to a degree or special certificate. There are also four-months' courses, which appear to be on the same lines as the revision classes for practitioners and may lead to a special certificate. It is intended to develop this graduate school so as ultimately to provide courses and instruction and special work in practically all the branches of medicine and its allied subjects. The special degrees to be given are Master in Medical Science and Doctor in Medical Science. The master's degree is to be confined exclusively to those candidates who have become qualified to begin the practice of a medical, surgical, or laboratory specialty, and the doctor's degree to those candidates who have done "productive research" or work of considerable merit. The Master in Medical Science does not, as in the Mayo-Minnesota graduate school, demand three years' work. The University of

Harvard gives a certificate in Public Health in Industrial Hygiene after one year's work, the degree of Doctor in Public Health (Dr.P.H.) in Industrial Hygiene after two years' work, and the degree of Doctor of Philosophy in Industrial Hygiene after three years' work, but it does not offer a degree for graduate work in clinical medicine alone as in the Mayo-Minnesota scheme. This school in industrial medicine is a new development, for it is both a training school for medical men who intend to take up work in connexion with factories and a research institution, but it is not part of the graduate medical school of Harvard University, which is fully developed on lines more familiar in this country. Several other universities give the degrees of Master of Science or Doctor of Philosophy for research work in laboratories in the fundamental subjects (anatomy, physiology, biochemistry, bacteriology, and pathology), but not for clinical work.

Short Courses.

A few words may be added about the short courses of instruction to medical graduates in America, which are more on the lines of post-graduate education as understood here. These courses usually occupy from two weeks to four months; and it has been estimated that in the year 1919–20 there were probably 6,000 applicants for these courses. The applicants are—

(*a*) General practitioners, anxious to keep their knowledge up to date, who being established in practice cannot devote more than a short time to this object; the time thus afforded is indeed often inadequate, especially in the case of men whose training in the fundamental subjects (anatomy, physiology, bacteriology, and pathology) has always been deficient or has become so from lapse of time. Accordingly there is not time to obtain a proper knowledge of the fundamental data, and without this basis the full benefit to be derived from these short courses may be problematic. (*b*) A large proportion of the men applying for short courses are "partially prepared clinical specialists," and do so with the object of extending or perfecting their operative technique in general surgery or in some special line of practice.

Most of the applicants for short courses may therefore be regarded as really anxious to obtain a short cut to knowledge. While fully recognizing the difficulty of running these short graduate courses in connexion with undergraduate teaching, the American committee, though expressing their views with great caution, appear to be doubtful if the existing graduate and polyclinic schools, by the provision of lectures, clinical and laboratory demonstrations and training in technique, supply what is wanted; and they urge the university medical schools to give to the better prepared men applying for short courses opportunities for combining diagnosis with treatment. This has perhaps been most fully developed by the University of Harvard, where

the medical school offers to graduates the opportunity of taking out courses of varying duration in most of the branches of medicine and surgery. These are termed "practitioners' courses," and mainly consist of classes, restricted to a small number of graduate students, commonly from four to ten. The organization of the graduate division of the medical school of Harvard University is under the direction of Dr. A. S. Begg, the assistant dean, in charge of graduate courses.



With the Writer's Compliments.

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7.

DISEASES DESCRIBED BY MEDICAL MEN WHO SUFFERED FROM THEM.[1]

BY SIR HUMPHRY ROLLESTON, K.C.B., M.D CAMB., F.R.C.P. LOND.

EMERITUS PHYSICIAN, ST. GEORGE'S HOSPITAL SENIOR PHYSICIAN, VICTORIA HOSPITAL FOR CHILDREN.

IN the selection of a subject in response to your complimentary invitation it was obviously unwise to encroach on those aspects of medicine that your teachers deal with so much more advantageously, and I have accordingly chosen one on which it is to he hoped that none of them—though here I am not on safe ground—are personally competent to speak with real authority—namely, diseases described hy medical men suffering from them. Stephen Paget, in his delightful *Confessio Medici*, says: "You cannot be a perfect doctor till you have heen a patient: you cannot be a perfect surgeon till you have enjoyed" (and he goes on to emphasise his choice of this verb) "in your own person some surgical experience." According to this line of reasoning the perfect author should be a man of many joys (or sorrows?); and though I wish them well it is not this kind of joy that your teachers deserve.

Victims to Their Specialty.

Although the title, "Diseases Described by Medical Men who have Suffered from Them," excludes the examples of medical men who have paid particular attention to a disease and eventually fallen a victim to their specialty, a brief reference to this subject may perhaps he made. It has heen said, possihly inspired by the attractive speculation that auto-suggestion is at work, that this sequence is common, and Sir William Hale-White tells me that Sir Samuel Wilks, who was a doctors' doctor, was firmly convinced of this association. On the other hand, this coincidence is so striking that there is a risk of exaggerating its frequency. Writers of complete text-books would of necessity swell this category and must therefore be disqualified. For example, Nothnagel died of what has from the toll it levies been called the doctors' disease—namely, angina pectoris—on which he was a recognised authority; hut he was also the editor of a voluminous encyclopædia of medicine, and wrote on a numher of other subjects. As examples of authors unconscious that the future would add a grim personal interest to their favourite professional suhjects the following may he quoted: Laennec, who died from pulmonary tuherculosis; Sir William Gull, who, with H. G. Sutton, described arterio-capillary fibrosis, from cerehral hæmorrhage; Mikulicz from carcinoma of the stomach; S. O. Hahershon, the author of a book on Diseases

[1] A paper read before the St. Mary's Hospital Medical Society on Feb. 23rd, 1921.

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of the Stomach, of simple gastric ulcer; G. R. Fowler, an American surgeon, author of a "Treatise on the Appendix," and originator of the Fowler position, of appendicitis; Corvisart and Lancisi of heart disease.[2] The late Sir A. B. Garrod, who wrote in 1876 that, unlike Sydenham, he could not from personal experience describe the sensations of gout, became its victim, when 70 years of age, so his son the present Regius professor of medicine at Oxford tells me. Trousseau, whose clinical lectures covered nearly the whole field of medicine, pointed out that if thrombosis occurred in a case of gastric disease, carcinoma might safely be diagnosed; when himself ill he was visited on Jan. 1st, 1867, by his former pupil Peter, who, when thus calling to express good wishes for the New Year, had the painful experience of hearing his teacher say: "It is all up with me, the appearance of a patch of phlebitis last night leaves no loophole for doubt as to the nature of my illness." Trousseau was right in applying his diagnostic deduction to his own case; he lingered on for six months, dying at the age of 66 years on June 23rd, 1867.

Occupational Diseases among Medical Men.

Attention may be called to examples of what might be called occupational diseases among medical men; medical officers specially interested in infectious diseases, including tuberculosis, syphilis, and tropical affections, on which they may have written, are naturally liable to contract these diseases, and radiologists have suffered much in the past, especially from carcinoma. Those who have worked at the laboratory aspects of infections may fall victims to these diseases, and many examples might be given. Probably the best known are those cases in which the accident has rapidly proved fatal and so do not come under the category of those who have described the disease from personal experience. But of these martyrs to medical research the names of a few may be mentioned:—enteric fever: Allen MacFadyen, H. J. Tylden, L. Jenner; yellow fever: W. Myers; Rocky Mountain fever: T. B. McClintie; plague: Müller; spirillum fever: J. E. Dutton; glanders: J. H. Wells (1909). Another group contains those who have deliberately inoculated themselves with infective or probably infective material; thus J. W. Lazear allowed mosquitoes to bite him and by his fatal illness proved the transmission of yellow fever; the late Dr. P. T. Manson allowed infected mosquitoes to bite him, and by thus contracting malaria proved that they transmitted the disease; his death, however, was due to an independent accident; the late Dr. R. Cory, of St. Thomas's Hospital, frequently vaccinated himself with vaccine lymph from syphilitic infants and eventually became infected; and John Hunter[3] inoculated himself with pus from a case of gonorrhœa but developed syphilis, and was thus led to believe in the unity of venereal

[2] For an interesting paper on "Diseases of Great Physicians of the Past" see William Pepper (Tertius), Medical Library and Historical Jour., December, 1907: abstract in New York Med. Jour., 1908, lxxxvii., 231.

[3] Works of John Hunter with Notes, edited by J. F. Palmer, 1835, vol. ii., pp. 146, 417.

disease; it is, indeed, probable that his dramatic death from angina pectoris was due to syphilitic aortitis.

Great Names Connected with Special Diseases.

Bright, Addison, and Hodgkin—the great triumvirate of Guy's Hospital—did not suffer or die from the diseases so inseparably connected with their names. Bright died at the age of 69 after four days' illness attended with hæmatemesis, and the necropsy revealed pure aortic stenosis with healthy kidneys. He was known to have some cardiac affection, but it is said that inquisitive attempts to find out its exact nature were always frustrated by him; at consultations between several eminent physicians, including Bright, the problem was sometimes attacked by proposing to compare the patient's pulse with that of a presumably healthy man (Bright); but the erudite touch of the inquiring colleague was always skilfully evaded. About Addison's end kindly reticence drew a veil at the time of his death, but it appears that he became insane and jumped out of a window at Brighton when 67 years old. Hodgkin, who was pathologist, but never on the medical staff of Guy's Hospital, died of dysentery at Jaffa at the age of 68. Dr. Joseph Ignatius Guillotin (1738–1814), who was a zealous advocate of vaccination and the founder of a short-lived Académie de Médecine in Paris, did not, as poetic justice might well demand, have his head removed by the instrument to which his name is attached.

Diseases Described by Medical Sufferers.

When giving descriptions of diseases from which they may happen to have had personal experience some writers record their own sensations under a modest periphrasis such as "a man known to us whose heart stands work well in all other respects but in whom intermittence of the heart may occur for many days if he remain for an hour or two with many smokers. He dare not sit in a close smoking room or in a smoking carriage." Or "a case is known to the writer in which the patient suffered from a severe attack 18 years from the onset of the disorder (bilharziasis), which had been in abeyance for some years." The late L. G. Guthrie,[4] à propos of ophthalmic migraine, wrote: "In one case known to the writer permanent paralysis of the ocular sympathetic appears to have been the result of repeated migraine."

The accurate observations of medical men on their own diseases, in spite of the quip that "he has a fool for his patient," are interesting human documents, and may add to our knowledge of the earliest indications of disease. Such personal descriptions are of special value from the point of view of the subjective manifestations or symptoms as opposed to physical signs. The physical signs are best observed by the onlooker and may escape the attention of the patient. Thus L. P. Mark, for some 15 or 20 years, each day when he looked into the glass to brush his hair or to shave had a

[4] Guthrie, L. G.: The Diseases of Children (Garrod, Batten and Thursfield). Vide also Clinical Journal, August 5th, 1896.

typical acromegalic literally staring him in the face,[5] as had been clear to his professional friends for years, and when 49 was spotted in a crowd by Professor Pierre Marie, who originally described the disease, while in London for a medical entente cordiale. His graphic account of his sensations and sufferings, on the other hand, give much fresh information, especially as regards the occurrence of exacerbations in the disease, or of periods which he calls the acromegalic state during which the symptoms, like the physical signs, are accentuated; these symptoms varied from malaise to complete incapacity to do anything and mental depression.

Julius Thomsen's[6] description (1876) of the disease of the muscles (myotonia congenita) hereditary in his family first drew attention to this disease. This is the best, if not the only, example of a disease first brought to our knowledge by a sufferer, for it is not certain that John Bostock gave the first account of hay fever. Otherwise the nearest approach to such an original document is probably that by Dr. R. Druitt,[7] who gave a full description, especially as regards the early symptoms, of paroxysmal hæmoglobinuria under the title Paroxysmal Hæmatinuria in 1873, a year after the disease had compelled him to retire from active practice. But as far back as 1831 Elliotson[8] briefly referred to a case as connected with malaria, and in 1865, at the same meeting (on May 9th) of the Royal Medico-Chirurgical Society, G. Harley[9] and W. H. Dickinson[10] read papers on intermittent hæmaturia; Harley recognised that the red blood corpuscles were dissolved, but he believed that the underlying factor was hepatic derangement, apparently on account of the accompanying icteric tint; Dickinson, on the other hand, more nearly approached our present views in saying that we must be content to regard the disorder as something *sui generis* and the blood itself as the seat of the primary change. Druitt's symptoms began when he was 52, six years before his account of the disease was published, and lasted until his death in 1883 at the age of 68; he was the author of a once well-known handbook, "The Surgeon's Vade Mecum," which went through 11 editions.

Migraine, Asthma, and Gout.

The diseases most often described by medical patients are naturally those of a chronic character, and especially those with intervals of fair health between acute attacks of paroxysms, such as migraine, asthma, and gout.

Migraine, or sick headache, has the distinction of having been portrayed by more distinguished victims than has any other disease, even gout, and it is noteworthy that some of the most careful accounts of the visual phenomena have been given, not by medical men, but by the leading lights of

[5] Mark L.: Acromegaly, a Personal Experience. Baillière, Tindall, and Cox. 1912.
[6] Thomsen, J. (of Kappeln, Schleswig): Tonische Krämpfe (Ataxia Muscularis?), Arch. f. Psychiat., Berlin, 1876, vi., 702.
[7] Druitt, R.: Med. Times and Gaz., 1873, i., 408, 461.
[8] Elliotson: THE LANCET, 1832, p. 300.
[9] Harley, G.: Med. Chir. Trans., 1865, xlviii., 161.
[10] Dickinson, W. H.: Ibid., 1865, xlviii., 175.

pure science, especially astronomers, such as Sir G. Airy, Sir John Herschell, Sir D. Brewster, and Sir C. Wheatstone. In 1886 Hilton Fagge wrote: "I do not know of any other malady which within the present (XIXth) century has been the subject of two papers admitted into the Philosophical Transactions, as well as of communications to the Philosophical Magazine and other scientific publications in this country and abroad." It may therefore be said of it, as Sydenham feelingly remarked of gout, that it attacks more wise men than fools. Amoug well-known medical contributors to the literature of the disease are W. H. Wollaston, iuterim President of the Royal Society iu 1820, who, however, threw up the profession in disgust when he was rejected as a candidate for the post of physician to St. George's Hospital in 1800; John Fothergill, the Quaker physician aud philanthropist, of whom Benjamin Franklin said, "I can hardly conceive that a better man has ever existed"; Caleb Hillier Parry, the "distinguished old Bath physician"; Dr. E. Liveing, who wrote a classic on megrim (1873), Sir Samuel Wilks and Dr. Alexander Haig, a life-long sufferer until he dieted himself. Dr. Hubert Airy and Sir James Mackenzie have published coloured represertations of their own spectra. Mackenzie mentions that the scintillations once came on when he was about to operate on a case of appendicitis, but in the concentrated attention given to the operation they disappeared, only to return about a quarter of an hour after the operation was finished.

Asthma and hay fever, beiug examples of toxic idiosyncrasies on which Dr. John Freeman has thrown the light of the laboratory, may be considered together. In 1819 John Bostock,[11] later Vice-President of the Royal Society, described his own case as a "periodic affection of the eyes and chest," and nine years later, now under the new name "Catarrhus aestivus, or summer catarrh," was able to collect 28 examples of a similar nature, but the only refereuce to a previous description of the disease that he could find was one by Heberden. But asthma, which it must be admitted is a rather vague term, as it may include many causes of dyspnœa, was previously well known. Thus Sir John Floyer described his own case in his "Treatise ou Asthma" (1698); and in Hutchinson's Biographia Medica (1799) it is stated that John Arbuthnot's "Essay on the Effects of Air on Human Bodies" (1733) was apparently the outcome of consideration of his own case, "an asthma which gradually increasing with his years became shortly after uumanageable and incurable."

Arbuthnot, in his political skit "The History of John Bull," originated this familiar personification of the English nation: "Bull in the main was an honest, plain-dealing fellow, choleric, bold, and of a very inconstant nature." It may bo added that in one of his lighter touches the late Sir Victor Horsley described our three British institutions—John Bull, Father Christmas, and King Henry VIII.—as examples of fatty degeneration due to chronic alcoholism.

Another instance, certainly interesting on account of the correspondents, is to be found in a letter written from York on June 3rd, 1795, by Dr. Thomas Fowler (1736–1801)

[11] Bostock, J.: Mod.-Chir. Trans., 1819, x., 161, and 1828, xiv., 437.

whose name is so familiar in Fowler's solution (liquor arsenicalis) to Dr. William Withering, of Birmingham, the introducer of digitalis, detailing his symptoms as those of angina pectoris and asking for advice; Dr. Withering endorsed the letter with his opinion that the disorder was spasmodic asthma. Turning now to later authorities, Hyde Salter wrote a treatise on asthma in 1859; C. H. Blackley, in his monograph (1873) on Catarrhus Aestivus or Hay Fever, refers to T. Wilkinson King, G. T. Gream, and W. P. Kirkman as fellow sufferers, and Trousseau[12] described his own experience; W. E. Steavenson in his published thesis for the M.B. at the University of Cambridge (1879), says, "I have never been prevented by an attack of asthma from going in for or completing any examination; but when completed and the strain on my mind relieved, it has always been followed the succeeding night and day by a severe attack."

Many famous medical men have suffered from *gout*, and some of them have made their experiences public. Thomas Sydenham (1624–1689), the English Hippocrates, was a chronic victim of gout, and towards the end of his life, when suffering from renal calculus and hæmaturia, brought out his Tractatus de Podagra et Hydrope (1685) Benjamin Franklin (1706–1790) was also plagued with gout and vesical calculus and wrote a curious pamphlet "A Dialogue between Franklin and the Gout." Dr. William Stukeley (1687–1765), not only a distinguished physician, but so eminent in archæology and druidical history that his friends familiarly spoke of him as the "Arch-Druid of this age," became so overpowered by the fatigues of his profession and repeated attacks of gout that he turned his thoughts to the church and was appointed to the living of All Saints, Stamford, in 1730, where he was treated by Dr. Rogers with his oleum arthriticum. The successful result of this external application induced Stukeley to publish "A Treatise on the Cause and Cure of Gout, with a New Rationale" (1734). It should, however, be noted that in addition to rubbing on the oil Stukeley adopted a proper regimen and left off the use of fermented liquors. A famous example of a physician recounting his own ailments is that of George Cheyne, who described his obesity, neurasthenia, and hyperchlorhydria and his cure in "The English Malady" (1733). In "An Essay of the True Nature and Due Method of Treating the Gout" (1720) he also drew on his own experience.

The late Sir Robert M. Simon suffered from *Ménière's disease*, and a graphic description of his symptoms from his own hand was published posthumously.[13]

Sir George Murray Humphry of Cambridge, had *phlebitis* on three occasions—in 1843 after right-sided pleurisy, in 1846 after typhoid fever, and again in 1851 after pleurisy. He laughed at those who kindly told him that he would die, and wrote his M.D. thesis on "The Formation of Clots in the Venous System during Life,"[14] recording his own case: "My attention was first called to it by its occurrence in a member of the medical profession, a delicate man."

[12] Trousseau: Clinical Lectures, p. 625, vol. i., 1868, New Sydenham Soc.

[13] Vide Brit. Med. Jour., 1915, i., 53, 282.

[14] Ibid., 1859, 582.

Other Diseases, Infections, and Accidents.

Alimentary canal.—Merycism or rumination has been described by several medical sufferers: Näcke, Cambay, Blanchard, and Halliday.[15] J. H. Keay,[16] from frequent personal experience, insisted that the initial pain of *biliary colic*, presumably due to the entrance of a stone into the cystic duct, is felt in the back and not, as is commonly stated, in the right hypochondrium or epigastrium, and Dr. Kraus, of Carlsbad, expressed the same opinion on similar grounds. Professor Lewellys Barker,[17] in an article on the diagnosis of gall-bladder disease, mentions that when 8 years old he had enteric fever, and that 35 years later four gall-stones giving cultures of *B. typhosus* were removed from his gall-bladder. Dr. E. A. Cockayne[18] detailed his own experience of catarrhal jaundice.

Cardiac and renal disease.—The late Sir W. T. Gairdner, who wrote much on the cardio-vascular system, gave an account[19] of his own symptoms in Stokes-Adams's disease. W. C. Wells (1757–1817), the famous author of "The Essay on Dew," suffered from dropsy and cardiac asthma; he wrote on scarlatinal and other forms of dropsy, pointed out that the urine contained albumin in scarlatinal and cutaneous dropsy, but not in primary hydrothorax or ascites. He noted that in some of his cases the kidneys were diseased, and thus prepared the way for Bright's generalisation; he anticipated Blackall, who subsequently elaborated the observations on the presence of albumin in the urine. James Jurin (1684–1750), the first physician to Guy's Hospital (1725–1732), suffered severely from renal calculus, and described his painful experience in his "Account of the Effects of Soap-Lye, taken Internally, for the Stone," published in 1740.

Infections.—Murchison, who had typhus twice, graphically described his own sensations and delusions during the delirium of the disease, and quoted similar personal accounts by Hildenbrand and Gueneau de Mussey. Benjamin Rush, "the American Sydenham," after advocating bleeding and purgation with good results in yellow fever, contracted the disease, had his own treatment, and recovered. Surgeon-General G. M. Sternberg, who investigated many outbreaks of yellow fever, and wrote much, especially about the ætiology and prevention of the disease, had an attack after the third outbreak and was as energetic as ever in advocating measures for its prophylaxis. Sir James Paget in his account of his illness contracted from examination of a patient dead of pyæmia remarked, "Sir William Lawrence used to say that he had not known anyone to recover on whose case more than seven had been consulted. Our art has improved. I had the happiness of being attended by ten." In recording his own experiences as a case of staphylo-

[15] Vide Brockbank, E. M.: Brit. Med. Jour., 1907, i., 421.
[16] Keay, J. H.: Medical Treatment of Gallstones, p. 75, 1902.
[17] Barker, L.: Jour. Amer. Med. Assoc., Chicago, 1920, lxxv., 1105.
[18] Cockayne: Quart. Jour. Med., Oxford, 1912–13, vi., 8.
[19] Vide "Life of Sir W. T. Gairdner," by G. A. Gibson M.D., pp. 138–152, 1912.

coccic infection Sir Lauder Brunton [20] noted that the pain was worse after meals, when hydrochloric acid was being absorbed from the stomach, and that relief followed the ingestion of sodium bicarbonate and its local application to the pustule; he referred to the diminished alkalinity of the blood, but did not use the term acidosis, which, though invented, was not then in popular parlance. Alexander Ramsay (1754–1824) who, according to some, was a compound of personal deformity, immense learning, uncontrollable temper, and inordinate vanity, wrote "Personal Experiences from the Bite of a Rattle-snake." [21]

Tuberculosis has naturally attracted its medical victims to its study, and has recently been responsible for a number of medical officers to sanatoriums. Sir Andrew Clark, when young, was gravely ill with tuberculosis, and when given an appointment at the London Hospital in 1853 was not thought likely to survive a year; no doubt his own condition led him to undertake inoculation experiments with tuberculous material, a subject to which Villemin's researches were then (1865) calling much attention; but his work was interrupted by an attack of hæmoptysis. He also did much to establish the existence of a non-tuberculous destructive disease of the lung under the name of fibroid phthisis or, as it is now called, chronic (interstitial) pneumonia. E. L. Trudeau developed pulmonary tuberculosis in 1871 and was the pioneer of the open-air treatment of the disease at his sanatorium at Lake Saranac, in the Adirondacks, where R. L. Stevenson was for a time, and where, according to E. V. Lucas [22] simplified spelling is in vogue and "that most august and mysterious of the functionaries of life, the physician, is able to watch his divinity dwindle and his dignity disappear under the style Fizisn." Dr. James Hughes Bennet went to Mentone for disease of the lungs and was the chief agent in establishing Mentone as a health resort; he wrote a book on "The Treatment of Pulmonary Consumption by Hygiene, Climate, and Medicine."

Rupture of his tendo Achillis about 1762 led Alexander Monro, primus (1697–1767) of Edinburgh, to record his accident; and John Hunter's similar experience while dancing in 1768 inspired him to investigate experimentally the healing of tendons in dogs. Percivall Pott's fracture, due to a fall from his horse in 1756, has kept his name in perpetual recollection.

Lastly, most of the writers on old age and its infirmities, such as Cornaro, Sir Anthony Carlisle, Charcot, Sir George Humphry, Sir Hermann Weber, and Dr. R. Saundby, have been approaching the sere and yellow. A few dying physicians have recorded their experience until the pen slipped from their fingers, and it is difficult to find a more comforting last word than that of the great William Hunter, "If I had strength enough to hold a pen, I would write how easy and pleasant a thing it is to die."

[20] Brunton, L.: St. Bart.'s Hosp. Rep., 1903, xxxix., 227.
[21] American Medical Biographies (Kelly and Burrage), p. 951, 1920.
[22] "From an American Note-book," Times, Sept. 24th, 1920.

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With Best Wishes.



An Address

ON THE

CLINICAL LABORATORY IN THE MODERN HOSPITAL.

Delivered on Sept. 16th at the Opening of the John Elliott Memorial Pathological and Bacteriological Laboratory at the Chesler Royal Infirmary,

BY SIR HUMPHRY ROLLESTON, K.C.B., M.D. CAMB., D.C.L., LL.D.,

PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON; EMERITUS PHYSICIAN, ST. GEORGE'S HOSPITAL, LONDON.

IT is most fitting that the name of a physician such as John Elliott should be perpetuated by the addition of a pathological and bacteriological laboratory to the Chester Royal Infirmary, on behalf of which he did yeoman service for 26 years. This modern laboratory appropriately corresponds with the operating theatre recently erected as a tribute to the late James Taylor, for 40 years a mainstay and ornament of the surgical staff of the infirmary. Originally opened in 1755, and much extended within the last few years, the Chester Royal Infirmary has a proud record of work and workers in the past; it is hardly necessary to recall the names of John Haygarth (1740–1827: isolation of patients with infectious fevers—rheumatoid arthritis) and William Falconer (1744–1822), both Fellows of the Royal Society, who subsequently removed to Bath; of William Makepeace Thackeray (1770–1849), first-cousin once removed of the famous novelist with the same names, and distinguished not only as a physician but for his success in forestry; of Edward Waters (1813–1890), of James Taylor (1840–1912), and of the successive Dobies. The first of this line, William Murray Dobie

(1828–1915), made discoveries in the structure of striated muscle (Dobie's line) and in astronomy (Dobie's crater in the moon), and realised the ideal of our profession—the beloved physician.

But the modern developments of medicine entail fresh methods, so that for the efficiency of a present-day hospital a well-equipped and staffed pathological and bacteriological laboratory is, like a radiological department, as integral a part as the dispensary and operating theatre. Possibly this may seem a somewhat exaggerated statement to those who, remembering what our professional predecessors accomplished, are not unduly impressed with the superiority of the present generation or cognisant of the transformation that has taken place in the art of healing. It is, no doubt, true that when any new phase or fashion appears on the scene there is a danger of rushing to extremes ; before the era of bacteriology and clinical laboratories the medical man had to depend entirely on his own powers of observation, which were therefore cultivated to a high pitch of excellence, and clinical instinct, which is the subconscious judgment born of years of thoughtful experience, is a great asset of the medical practitioners of all time, of the present no less than of the past. The inestimable value of the laboratory, with its rapid decision of clinically doubtful diagnoses, is now established beyond question ; but it must be admitted that some who have grown up with it may be tempted to rely solely on its verdict, and so to save themselves the trouble of investigating the patient. In this way fallacies and mistakes may arise, for the old adage that the patient and not the disease must be treated should not be forgotten. Against the danger of neglecting investigation of the patient's symptoms Sir James Mackenzie has not only wisely and repeatedly warned us, but in his Institute for Clinical Research at St. Andrews he is setting an example as to how it should be carried into effect.[1] The clinical laboratory is an essential part of a complete hospital, but it must be closely coördinated with the wards, for only by their intimate association can the best results be obtained ; the clinical worker without the help of the laboratory and the bacteriologist without the clinical data stand in relation to the patient in much the same position as a pilot without a chart of an unknown ocean does to the ship for which he is responsible.

The Laboratory Staff.

The laboratory meets a large and ever-growing demand from the wards and out-patient rooms, and should therefore be competent to deal with all branches

of pathology; how extensively this subject has grown, and into how many special branches the science of pathology has become differentiated, is shown by the staffing of the laboratories at the larger medical schools; in fact, one man cannot satisfactorily cover the ground of morbid anatomy and histology, bacteriology, serology, biochemistry, clinical and experimental pathology, any more than a clinician can be thoroughly efficient in all the specialties of medicine. Although in hospitals without a medical school the conditions are rather different and the demands less, they are nevertheless so considerable that they should be met by the appointment of a salaried full-time director provided with trained laboratory attendants and helped by co-workers, one of whom should be a biochemist. The director is worthy of his hire, and it is important to realise that economy in this respect is harmful and defeats itself. The other workers, except perhaps the biochemist, would be part-timers, and might with advantage be junior members of the hospital staff, for the experience thus gained would greatly increase their professional efficiency, and their presence would ensure active correlation between the wards and the laboratory both at the time and in the future, for a physician who has had such practical experience in a laboratory will remain in sympathy with the work after he has ceased to take an active part in it. The not unknown tendency for the laboratory workers and clinicians to live and think in watertight compartments has militated against the progress of medicine.

The Value of the Laboratory.

Although it is perhaps preaching to the converted, allow me to summarise the value of a laboratory such as you have generously and wisely established. This may conveniently be done under the following heads, though there is some overlapping:—

1. *From the Point of View of the Community and of the Individual Patient.*—The first duty of the medical profession is the prevention of disease; the second, its cure; a large proportion of diseases, acute and chronic, are due to infection, and it is obvious that the sooner the nature, and so the means of spread, of an infective disease are detected the earlier can appropriate measures be taken to prevent the epidemic prevalence of that disease. Thus enteric fever, thanks to sanitary science now comparatively infrequent, sometimes imitates common influenza, and bacteriology, or the science of infection, may show that what clinically appeared to be influenza is in reality enteric

fever; as the result of this information the special sanitary and other precautions can then be mobilised to abort what might otherwise have become a serious and expensive outbreak. The occurrence of diphtheria in a school or institution usually depends on the presence of a "carrier," and this unconscious focus can be localised only by bacteriological examination. The first cases of anthrax, glanders, plague, botulism, and other infective diseases fortunately rare in this country, but therefore apt to pass unrecognised, should if seen at a hospital with laboratory facilities be correctly diagnosed, and as a result the public health authorities are enabled to take prompt steps for the control of their further spread. Complete coördination of the medical profession for the prevention of disease requires a close association of the laboratories of towns and districts with the local hospitals. The individual patient's disease often cannot be accurately diagnosed without the help of a clinical laboratory, and therefore in common justice to patients this provision should be available. Further, modern treatment must often be checked and modified by laboratory tests.

2. *From the Point of View of the Medical Profession.*—Without the assistance of a laboratory a medical man in his fight against disease is much in the same position as a pugilist with one arm tied behind his back. As the late Sir William Osler [2] remarked, a great defect in medical practice is that the laboratory facilities employed in teaching hospitals for the diagnosis of disease are not often available to the qualified man when he starts work in the world. It is, therefore, important that every town and district should have a suitable laboratory connected with a hospital which should be the centre of medical work and activity. If deprived through no fault of his own of the opportunities of utilising the methods he was familiar with as a student, and of acquiring a knowledge of the progress of medicine by contact with a laboratory and a hospital, the medical man's efficiency must deteriorate, and his patients suffer accordingly. The early diagnosis of infectious diseases, such as enteric, diphtheria, cerebro-spinal fever, and syphilis, may be impossible for him, and the results disastrous to the community. To insist further on this dependence of internal medicine on laboratory assistance would be tedious; but it would be only a very partial statement of the value of a clinical laboratory in a hospital to say that what the operating theatre is to surgery the clinical laboratory is to medicine; for the surgeon is dependent on the laboratory for aid

in diagnosis and prognosis, including the problem of when to operate and when to hold his hand, and for many points in the treatment of his cases. Thus, to recite two obvious examples, a piece of tissue removed at an early stage of an operation can in a few minutes be frozen, and from the verdict of the immediate microscopical examination the surgeon knows then and there whether the disease is inflammatory, innocent, or malignant, and whether a comparatively small operation, such as the removal of a fibro-adenoma from the breast, or the more extensive operation of clearing out the axillary glands, is the right course. Similarly, immediate examination of tissue from a swelling in connexion with bone may decide whether it is inflammatory (quiet necrosis) or an innocent tumour (myeloma), and the incision all or nearly all that is required, or whether it is a sarcoma and the limb must be amputated. From the patient's point of view the gain from such facilities on the spot may be great; for if the material has to be sent to a distance a further operation with all its attendant anxieties and pains may be required, instead of the complete procedure at one sitting; or, for lack of this information, an unnecessary operation may be performed. The efficiency of the kidneys can now be determined by laboratory tests, showing when it is safe to operate on an enlarged prostate and when it is wise to wait until the risk of fatal uræmia, as a result of operative interference, has passed. The advance of medicine as a science and art owes much to laboratory work, but our knowledge is far from complete; for additions to medical science we look to laboratories all over the country, which should therefore be centres for research as well as for diagnosis.

3. *From the Point of View of the Governing Body.*—As the Board have to provide the funds for the upkeep of the laboratory and the salaries of those in charge, which should be on an adequate scale, it might appear at a very superficial glance that the lay governors' reward would be summed up in the words, "it is more blessed to give than to receive"; but however unselfish this conduct might appear, they are responsible for the financial interests of the hospital—as a business proposition—and must see a reasonable return for fresh expenditure, especially in these lean years. The demands entailed by an efficient clinical laboratory therefore require some justification. Now, apart from the imperative need for a laboratory as essential to a modern efficient hospital, its cost should be regarded as an eventual economy and in the light

of an insurance against the spread of disease not only in the community at large, which would tend to increase the work and running expenses of the hospital, but also in the institution itself ; for example, an outbreak of diphtheria among the patients may necessitate the closure of a ward ; among the nurses it may cause considerable expense. Against the hard cash put down for the upkeep of the laboratory must be reckoned the potential cost of epidemics preventable by the prompt detection, isolation, and treatment of a first case, and in some instances by the protective inoculation of contacts and others. Thus a single case of diphtheria is detected in an early stage by laboratory methods and treatment by diphtheria antitoxin established ; the spread of the disease is prevented by disinfection and by special care in the nursing ; by the application of Schick's test those within the range of infection and susceptible to infection can be recognised and rendered immune by the prophylactic injection of anti-diphtheritic serum, should there be any loophole in the sanitary precautions ; and, further, " carriers " can be detected and isolated, and thus the development of other cases minimised.

JOHN ELLIOTT, O.B.E., M.D., F.R.C.P.

In conclusion, the tribute you have paid to his memory is the one John Elliott would most highly have appreciated. He is in your minds to-day as you knew him, and although we entered as students at St. Bartholomew's Hospital on the same day—the first of October, 1881—I cannot hope to add to your knowledge of the man. Born on Sept. 29th, 1861, at Whitchurch, Salop, and educated at Owens College, Manchester, he was an exceptionally able student, gaining the open entrance scholarship in science at the hospital and taking high honours in the London University with apparent ease. As he held resident surgical appointments at St. Bartholomew's and at the General Hospital, Birmingham, he seemed destined for a brilliant career in surgery ; but after failing in his application for a recognised step on the surgical ladder at his old hospital school, he took up internal medicine, rather to the surprise of those who thought they knew his bent of mind. He became M.R.C.P. in 1891 and F.R.C.P. in 1908, thus recalling a previous John Elliott (obiit 1691), Fellow and Censor of the College, who in an outspoken manner accused the Prince of Orange of treason and was therefore committed to Newgate in 1689. Of the late John Elliott's services as a member of the staff of the Royal Chester Infirmary from 1895 until his untimely death this

laboratory will be a lasting and most appropriate memorial. Not only was he exeeptionally able, but he had the faculty—not always found with such intellectual gifts—of doing everything to whieh he turned his hand with the might that ensured sueeess. The field of his aetivities was wide both in the strictly professional subjects and in science; a first-class general physician, he had a well-equipped laboratory of his own for the elucidation of his cases, thus realising the ideal of present-day medicine in the investigation of morbid function; he was much interested in radiology, played an active part in the treatment of venereal disease, and, as recently as 1921, formulated precautions [3] neeessary in the administration of salvarsan. His work for the infirmary went far beyond the discharge of a physieian's duties, for he was the driving force in the initiation and exeeution of the important additions and improvements begun ten years ago. He took a strong line in the High Court in the matter of diselosing the confidence of a patient, was aetive in the war, and was responsible for the organisation of medieal service in his distriet.[4] His knowledge of the antiquities of Chester was extensive, as was well shown in some published articles [5] and a lecture [6]; natural seienee found in him a keen devotee and he was an expert in eolour photography. In all this there was much to admire, but there was more; his foree of eharaeter and will-power made him the man he was and accounted for the universal confidence he inspired.

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With kind regards.

ULCERATIVE COLITIS.*

BY

SIR HUMPHRY ROLLESTON, K.C.B.,
M.D. CAMB., D.C.L., LL.D.,

PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON;
EMERITUS PHYSICIAN, ST. GEORGE'S HOSPITAL, LONDON.

THE subject of chronic ulcerative colitis, though mentioned in Wilks and Moxon's "Lectures on Pathological Anatomy" in 1875, owes its recognition in great measure to the writings of Sir William Hale-White, the President of this Society, who gave the first of his several descriptions of the condition in 1888. There was a discussion at the Section of Medicine of the Royal Society of Medicine in 1909, with statistics of 312 cases so diagnosed in the hospitals with teaching schools in London. In 1911 simultaneous discussions on colitis were held at the Harveian Society and at the Chelsea Clinical Society. It is a disease on which British physicians have made the great bulk of the contributions. The question naturally arises whether, in the years since these discussions, any important advance in our knowledge has been made. From the bacteriological and medical points of view it must be admitted that there is little to say. From the diagnostic standpoint the increasing appeal to the sigmoidoscope is important, and as regards treatment, the increasing stress laid on the value of appendicostomy is the most noticeable feature.

SCOPE OF THE TERM.

In introducing a discussion it is important to define its scope, and in this instance it is somewhat difficult to limit the field. By a process of exclusion, some idea may be arrived at; it will be agreed that many forms of ulceration of the colon may be eliminated as not coming within the meaning of ulcerative colitis. Thus exogenous ulceration due to an abscess rupturing into the bowel—e.g., an appendix abscess, malignant ulceration, stercoral ulceration, diverticulitis, typhoid and paratyphoid, "uræmic," and tuberculous ulceration, bacillary and amœbic dysentery—may be counted

* Paper opening a Discussion at the Proctological Sub-section of the Royal Society of Medicine on 9th May, 1923.

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out. Ulceration due to acute colitis of known toxic origin, such as that due to corrosive sublimate poisoning, and the various forms of parasitic colitis and of infective proctitis of local origin and extent should not be included in ulcerative colitis. The ulceration exceptionally found in pneumonia and after accidents (those causing paraplegia having suggested a trophic disturbance) should also be excluded. A few words should be added about what was formerly known in this country as the ulcerative colitis of asylums and in America as institutional dysentery. Early in this century Vedder and Duval (1902) in America, and in this country Mott and Durham (1901) and Eyre (1904), showed that it was bacillary dysentery, thus confirming Gemmel's view (1898). Sir Frederick Mott has most kindly provided me with information as to the present position of knowledge of this disease in the London County Council Asylums ; since the term " colitis " and the idea that it was a non-infectious disease due to trophic changes have been given up, the type of disease has altered so that severe and acute cases are less frequent. Outbreaks are almost certainly due to the presence of chronic carriers, and his assistant, Captain A. S. Mann, who has done much serological work on the subject, finds that the responsible organism is type X of the Oxford series of Flexner dysentery organisms. It appears advisable to exclude from the group of cases that may for convenience be called ulcerative colitis, the cases often arising in epidemic form in asylums, and to confine our attention to the sporadic cases seen in the ordinary civil practice which are not, from a laboratory point of investigation, bacillary dysentery.

Bacteriologically ulcerative colitis is not a specific disease, for numerous organisms, *B. coli*, coliform organisms, *B. pyocyaneus*, pneumococci, and streptococci may appear to be the predominating and causal agents. A bacteriological diagnosis is comparatively easy in the acute stage, difficult when the condition has become chronic. The opportunities for secondary infection in the colon are most favourable, and it is probable that ulceration of the colon, originally due to one micro-organism, may be kept up by the combined attack of different bacteria, or to successive varieties or strains of pyogenic cocci. Lockhart-Mummery in 1911 drew attention to the gravity of cases of ulcerative colitis following tropical dysentery in which the original infection has died out. It is indeed difficult to be certain that the original infection has entirely disappeared ; for although the stools may not give any evidence of amœbic or bacillary dysentery, the organism may still be present in the walls of the

colon. Dr. J. W. McNee has shown me a specimen of the colon with *Entamœba histolytica* in the blood-vessels from a man who had never been out of England and presented the symptoms of ulcerative colitis with absence of *E. histolytica* from the stools. It is not surprising that in such cases specific treatment, for example, emetine for latent amœbiasis, may fail to be curative, just as iodides may prove disappointing in an actinomycotic lesion with secondary streptococcic invasion. Further, ulceration of the colon is often a stage in an acute or chronic inflammation of the bowel, and not, as far as is known, a process due to the advent of a special micro-organism. The acute phase, as in hæmorrhagic colitis, may pass off or prove fatal before ulceration is established (vide Grant). It must indeed be admitted that ulcerative colitis is not a disease in the strict sense of the word, any more than rhinitis or bronchitis is, but that it is a syndrome with fairly constant clinical manifestations and anatomical changes, which may be excited by different factors.

Ætiology.

As the causes favouring infection of the colon and widespread ulceration are obscure, reference may be made to McCarrison's and Findlay's observations showing that a devitamised diet renders animals less resistant to infection; thus, McCarrison found that healthy monkeys, carriers of *Entamœba histolytica*, may, as the result of a deficient diet, develop amœbic dysentery, and in an infected area organisms of the hog cholera group attack pigeons on a devitamised diet and spare those properly fed. Diminution or deprivation of the water-soluble vitamin B, such as occurs in food consisting of excess of starch and fats, favours infection. The whole alimentary tract of the experimental animals shows atrophy and necrosis; and acute colitis but not ulcerative colitis was described. It is, however, easy to understand that in man a diet deficient in protein and water-soluble vitamin B might so reduce the healthy resistance of the mucous membrane of the colon that micro-organisms previously harmless, such as *B. coli*, would become pathogenic; in short, the carrier would become a patient. It is also conceivable that changes in the mucous membrane of the colon may so alter their environment that bacteria unable to multiply in ordinary conditions would grow without inhibition, in other words, that the intestinal flora would change. Bassler speaks of a coliform organism of enhanced virulence as the *B. pseudodysentericus coli*.

Nearly 30 years ago the late Leopold Hudson suggested that swine fever and ulcerative colitis might be identical, and quoted a few instances in which the disease had followed the consumption of pork. He pointed out similarities between the morbid lesions and the clinical manifestations in the two diseases. Prof. F. Hobday tells me that no definite proof has as yet been brought forward in support of any connexion between these human and swine diseases.

Complications.

Is the incidence of perforation lower now than it was formerly in this country? Among 16 cases selected from those recorded in the *Transactions* of the Pathological Society of London (1885–1907) it occurred in five, and out of 33 fatal cases (probably including the above) collected in 1910 by Lockhart-Mummery, 9 showed perforation and general peritonitis; possibly some of the cases were published on this account; or has the type of the disease changed either from alteration in treatment or from less obvious causes? Among 22 selected cases of ulcerative colitis examined after death at St. George's Hospital between 1890 and 1922, Miss N. Schuster found four cases of perforation, two being in the "ninetics" and two during the war; so far as this small group goes there does not appear to be any special alteration in the incidence of perforation. In very rare instances perforation is found after death with but little evidence of peritoneal response, and it is probable that the perforation was an agonal phenomenon when the reactive powers of the body were reduced to a minimum. In exceptional instances multiple perforations have been found. At the Mayo Clinic among 117 cases of chronic ulcerative colitis, which appear to have mainly followed dysentery, perforation was not uncommon and was a cause of localised abscess and not necessarily of general peritonitis. Hurst, on the other hand, found that localised abscess is exceptional and general peritonitis very rare, and that the latter when present is due to direct spread of infection through the walls of the colon and not to perforation. He states that stricture from cicatrisation of the healing ulcers never occurs, and other experience in this country supports this conclusion; among the 16 selected cases from the Pathological Society there was one only in which any mention of narrowing is made; in that case the descending colon was described as much contracted and thickened; no stricture was found among the 22 cases analysed by Miss Schuster: Logan, however, definitely states that stricture is likely to

occur. Possibly the nature of the Mayo Clinic cases are not exactly the same as those in this country. Arthritis, well recognised in bacillary dysentery, occurs in a small percentage of cases of ulcerative colitis. Among Yeoman's 65 cases arthritis or joint pains were noted in 4. Peripheral neuritis has also been noted. Ulceration in the small intestine is most exceptional.

Clinical Features.

The sexes are equally affected, and the incidence falls chiefly on young adults and in early middle life ; among Logan's 117 chronic cases 65 were under 30 years of age, and only 8 over 50. The onset may be sudden or insidious, and the course of the illness also acute or chronic. Acute colitis due to one micro-organism, such as the pneumococcus or streptococcus, or dysentery bacillus, may be succeeded by a chronic infection by a different bacterium. The first symptoms are usually those of colonic irritation—frequent stools, sometimes preceded by constipation. In the acute cases the temperature is raised ; in chronic cases it is normal or even subnormal, except for elevations corresponding to exacerbations. The leucocyte count appears to vary ; in some instances there is a leucocytosis, in others it is absent. As would appear probable (Price-Jones), on the assumption that there is a coliform infection, a lymphocytic increase has been reported (Horder, quoted by Hurst) ; but the blood picture would naturally differ with exacerbations and intermissions in the chronic form. Anæmia with 50 or even 20 per cent. of hæmoglobin is partly due to loss of blood, partly to toxins absorbed from the colon. The number of stools varies from 3 to over 20 in the 24 hours, but sometimes there are periods of constipation. The number of evacuations are less than in tropical dysentery, and tenesmus, which depends on the presence of ulceration low down in the rectum, inconstant ; it occurred in one-third of Logan's cases. The excreta contain blood, pus, mucus, and sometimes sloughs of the mucous membrane. Onset with hæmorrhage has been correlated with the commencement of ulceration low down in the colon (Hawkins). Abdominal discomfort is commoner than actual pain, the latter chiefly occurring before the bowels act or when there is much flatulence ; local tenderness on deep pressure over the colon is variable. The importance of a sigmoidoscopic examination does not at the present day need emphasis ; though it only provides information about part of the large intestine, that portion generally shows ulceration if it is present anywhere. The ulcers

are indistinguishable from those of bacillary dysentery. Logan gives a number of skiagrams showing interference with the peristaltic waves which become lengthened, more superficial, with rounded instead of sharp edges, so that eventually the fibrosed colon appears as a thick-walled tube without haustrations, often with stenosis. Hurst describes mottling of the colon, which is often abnormally narrow from spasm. Appetite and digestion are fairly maintained, but loss of weight and weakness are induced by the diarrhœa and toxæmia. The mortality is high, about 50 per cent., and Lockhart-Mummery estimates that it reaches 78 per cent. when treated medically. The cases are prone to relapse. The chronic cases must be diagnosed from carcinoma, tuberculous and follicular ulceration of the colon, the sigmoidoscope being the obvious means of so doing.

Treatment.

Many methods of treatment have been employed.

Dietetic.—As the stomach and small intestine are practically always free from ulceration, and as digestion and absorption are fairly well carried on, it is unnecessary to restrict the diet to slops and soft food. As deficiency in the antiscorbutic vitamin C has been shown experimentally to reduce the resistance to infection (G. M. Findlay), and as McCarrison's observations suggest that lack of water-soluble vitamin B favours the incidence of inflammation of the alimentary canal, it would appear reasonable to arrange a diet containing a sufficiency of antiscorbutic food and a fair quantity of protein. Soured milk with living cultures of *B. bulgaricus* has naturally been given a trial, but Hurst did not find that it had any beneficial effect.

Drugs.—The large number of drugs employed is in itself a reproach to purely medical treatment. Intestinal antiseptics, such as salol, bismuth salicylate, β-naphthol, small doses of mercury or calomel, benzyl benzoate, gentian-violet, acriflavine, are on the whole disappointing. Pomegranate bark and simaruba have also been tried ; and more recently of kaolin Logan remarks that it "was of no benefit whatever, although it is advised strongly by German writers." Finely pounded charcoal has been useful in reducing flatulence and obviating colic. Liquid paraffin by the mouth has been recommended as forming in the colon a coating in which bacteria cannot live (C. J. Macalister); and olive oil has been advocated both orally and by enemas (Logan). Lavage of the colon with antiseptics,

such as boric acid, acetozone, argyrol, nitrate of silver, albargin (silver nucleinate), allantoin, emulsion of sulphur, has been much employed; but, as the whole of the colon cannot be thus satisfactorily cleaned, appendicostomy or cæcostomy has largely superseded rectal injections as an effective means of washing out the colon. Einhorn employs a "jointed intestinal tube" 15 to 20 ft. in length introduced by the mouth and carried, under the guidance of X rays, into the cæcum, where it is left in situ for days as a means of getting a result comparable to that of cæcostomy; this procedure is on its trial. The respective merits of appendicostomy and cæcostomy have been much discussed; when the appendix is obliterated or, for other reasons, cannot be found, a valvular cæcostomy can be made; but neither this procedure nor appendicostomy gives the colon the rest from the contact of fæces which an open cæcostomy or a colotomy does. In 1911 Sir D'Arcy Power took the cautious view that the improvement after appendicostomy was mainly due to the prevention of toxic absorption and keeping the bowel clean, and stated that the ulcerative process continues until the patient becomes naturally or artificially (by means of vaccine) immune. Hurst considers that appendicostomy halves the time of illness that would be experienced under medical treatment, and surgical opinion is strongly in its favour. To give operation a fair chance it should be done before the patient is debilitated, and according to W. G. Spencer medical treatment should not be persisted in for more than three months. Short-circuiting the ileum into the pelvic colon has the serious drawback that the rectum is often affected; the radical means of providing physiological rest to the colon is a complete transverse ileostomy so as to exclude the colon; Stone recommends this in combination with a separate appendicostomy for irrigation of the colon.

Vaccines have been extensively employed; few reports are enthusiastic, and the difficulty of obtaining the causal organism is considerable, even with the help of serological reactions. An autogenous *B. coli* or coliform vaccine has usually been employed and should not be given during the acute acerbations of this chronic infection, as the condition may thus be seriously aggravated. In 1909 H. P. Hawkins advocated anti-dysenteric serum, especially in acute cases, but without giving any statistics as to its value. In 1921 Hurst recorded very striking results from the intravenous injection of multivalent antidysenteric serum in two patients who did not show dysenteric bacilli in their fæces. The healing of the ulcers as watched by the

sigmoidoscope occurred in one of the cases in five days after the first injection of serum, and as the blood did not agglutinate any stock dysenteric organism, the question arises how far the curative action was due to the horse serum apart from its specific anti-dysenteric content.

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PRESIDENTIAL ADDRESS.

The end of the Presidential year brings with it the following review of the position and activities of the College.

At the present time there are 368 Fellows of the College ; to illustrate our growth it may be mentioned that the number of Fellows was 304 in 1900, 175 in 1850, and 88 in 1823, a more than fourfold increase in the course of the last hundred years. Analysis of the present 368 Fellows appears to show, for it is not easy to avoid some errors, that 248, or 67 per cent., are in the practice of their profession as ordinarily understood, and that 164 of these are resident in London and 84 elsewhere—71 in the country and 13 out of Great Britain. Of the remaining 120 Fellows 39 are in official positions—naval, military, or other services—27 are professors, and 54 are believed to have retired. Of these 54 there are 42 whose sphere of work had been in London and 12 in the country.

The number of Members on 1 January, 1923, was 600, as compared with 454 in 1900, and 216 in 1823. There is one Extra-licentiate (1857). The number of Licentiates on 1 January, 1923, was 14,448, as compared with 14,177 a year ago, and 8,168 in 1900 ; during the past year 152 have died, 24 were elected Members, and the names of 2 have been removed. The Diplomates in Public Health number 1,041, in Tropical Medicine 371, in Ophthalmic Medicine and Surgery 77, and in Psychological Medicine 34.

HONOURS.

The following honours have been conferred by His Majesty the King on Fellows, Members, and Licentiates of the College during the year 1922-1923 :—

Baronetcy : Sir Berkeley Moynihan (Licentiate).

K.C.B. : Surgeon Vice-Admiral Sir Robert Hill (Licentiate).

Major-General A. P. Blenkinsop (Licentiate).

K.C.I.E. : Major-General G. G. Giffard (Member).
K.C.V.O. : Sir Milsom Rees (Licentiate).
R. R. Cruise (Licentiate).
Knighthoods : W. H. Hamer (Fellow).
A. J. Rice-Oxley (Member).
C.M.G. : E. Hopkinson (Licentiate).
C. A. Wiggins (Licentiate).
C.I.E. : Lieut.-Colonel A. Hooton (Licentiate).
C.B.E. : H. Hilliard (Licentiate).
C.V.O. : Surgeon-Commander A. C. W. Newport (Licentiate).
M.V.O. : Surgeon Captain F. H. Nimmo (Licentiate).

Lord Dawson of Penn and Sir Thomas Horder have been appointed Physicians in Ordinary, and Sir Hugh Rigby Surgeon in Ordinary to H.R.H. the Prince of Wales.

HARVEIAN CELEBRATION.

The Harveian Oration was delivered by Dr. Arnold Chaplin, the Harveian Librarian, who took for his subject "Medicine in the Century before Harvey," and gave in classical English an account of the history of Medicine and Science during the period extending from our foundation in 1518 to the appearance of Harvey's *De Motu Cordis* in 1628, and then considered the influence of Harvey's work on medical and scientific thought in the 17th century.

At the usual dinner in the evening there were present 10 guests and 62 Fellows.

CONVERSAZIONE.

On the evening of 21 November, 1922, a conversazione was held, the first for several years past. Between 400 and 500 guests were present, as well as Fellows, Members and Ladies. The expenses, amounting to £197 12s. 6d., were defrayed out of the Coates Fund, which was specially left for the purpose of entertainment and now shows a balance in hand of £181.

The College gave an "At Home" on the afternoon of

17 July, 1922, to the International Congress of Medical History, of which Sir Norman Moore was the President of Honour.

LECTURES.

The following Lectures have been delivered (the order given is chronological) :—

The Oliver-Sharpey Lectures by Professor E. Mellanby, 2 and 4 May, 1922, on " Some Common Defects of Diet and their Pathological Significance," gave an admirable account of the research work on which he had been engaged.

The Croonian Lectures by Dr. Gordon Holmes, 8, 13, 15 and 20 June, 1922, on " The Symptoms of Cerebellar Disease and their Interpretation," contained the results of much well-considered investigation.

The Bradshaw Lecture on 3 November, 1922, in which Sir Maurice Craig elucidated " the Mental Symptoms in Physical Disease," contained the outcome of a ripe clinical experience and dealt with a subject equally interesting to the alienist and the general physician.

In his FitzPatrick Lectures on " Philosophy and the Post-Hippocratic Schools of Medicine," 7 and 9 November, 1922, Dr. R. O. Moon supplemented his previous year's lectures on " Hippocrates in relation to the Philosophy of his Time," and has thus provided a scholarly source of reference in a subject to which he has long devoted serious attention.

In the Milroy Lectures on 22, 27 February and 1 March, 1923, Dr. W. G. Savage dealt with " Canned Food in relation to Health," in a comprehensive manner and brought forward the results of many years' investigation into this important subject, showing the comparative rarity of food poisoning due to this method of preservation.

The Goulstonian Lectures by Dr. Geoffrey Evans on 6, 8, 13 March, 1923, on " The Nature of Arteriosclerosis " provided a critical discussion, based on extensive histological work, of the part taken in this process by inflammation and degeneration.

In his Lumleian Lectures on " Epidemic Encephalitis (Encephalitis lethargica) " on 15, 20, 22 March, 1923,

Professor Arthur Hall gave a most complete and valuable survey of this disease, and threw much light on its late effects.

SCHOLARSHIPS.

The Murchison Memorial Scholarship was awarded to Arthur Henry Douthwaite, M.B., London (Guy's), and Charles Frederick Terence East, B.M., Oxon. (King's), who were bracketed equal by the Examiners.

The Streatfeild Research Scholarship was awarded to Kenneth N. G. Bailey, M.B., London (St. Bartholomew's), the subject of his proposed research being "Infection of the Urinary Tract by Coliform Bacilli." This is the second award since the foundation of the Scholarship.

GIFTS TO THE COLLEGE.

In addition to many valuable donations to the Library, the College had received: from Lady Moore, a portrait in oils of the late Sir Norman Moore (presented during his lifetime) by W. W. Russell, A.R.A., exhibited in the Royal Academy, 1922, and now hanging in the Reading Room; from F. Gore Wallace, Esq., L.R.C.P.: The chair used by the President in the College in Warwick Lane; and from Mrs. George Fagg, a malacca cane, containing two glass vials, said to have been in the possession of her family for about 200 years.

APPOINTMENTS, REPRESENTATION ON OTHER BODIES, Etc.

T. J. C. Tomlin, Esq., K.C., has been appointed Senior Standing Counsel to the College, vice Mark Lemon Romer, Esq., K.C., now raised to the Bench.

Representative on the General Medical Council: Sir Norman Moore, who had held this office for 21 years, resigned it shortly before his death, and Sir Humphry Rolleston, President, was appointed to succeed him.

Queen Victoria's Jubilee Fund for Nurses: Dr. H. G. Turney has been appointed to represent the College on

the Council of this Body, in place of Sir Dyce Duckworth, who has retired after many years service.

Bicentenary of the death of Sir Christopher Wren: Dr. Dawtrey Drewitt represented the College on a Committee formed to organise the Commemoration of the 200th anniversary of Sir Christopher Wren's death.

University of London: At the conference in January last called by the Vice-Chancellor to consider the possibilities of co-ordinating the courses of instruction given in Medical Schools, Sir William Hale-White and Dr. R. A. Young were the Delegates from the College.

University of Padua: The President represented the College at the celebration in May, 1922, of the 700th anniversary of the foundation of this University.

St. Bartholomew's Hospital and Priory Church of St. Bartholomew the Great: The President has been appointed to represent the College at the celebration of the 800th anniversary in June next.

At the celebration of Jenner's Centenary by the Académie de médecine, in Paris, on 23 January, 1923, Dr. R. O. Moon attended as Representative of the College.

Conjoint Board of Scientific Societies: The College decided to discontinue the appointment of a Representative to this Board.

FINANCE.

The receipts from the Examination Hall, which constitute the major part of the College income, continue to increase, as is shown in the Conjoint Finance Committee's Report for 1922. This increase is chiefly due to the larger number of candidates for the Second and Final Examinations; as, however, there is a fall in the entries for the First Examination, the near future will show a decrease in the numbers at the Second and Final Examinations and also in the receipts. It is therefore sarisfactory to note that the College has been able to invest some six thousand pounds during 1922. From the Conjoint Diplomas in Public Health, Tropical Medicine

and Hygiene, and Psychological Medicine, there has been some increase in the receipts, but in Ophthalmic Medicine and Surgery a fall.

Ashlyns Farm, part of the Hamey Trust, which has lately become a source of trouble and expense, has been sold for £4,850. Of this sum £3,000 remains on mortgage at five and a half per cent., and after deduction of expenses, the remainder, viz., £1,743, has been invested. A Rent Charge of £8 per annum payable by Sir Vauncey Crewe under the Lumley Trust, has been redeemed by him by a payment of £160.

The Finance Committee, finding that the insurances on the College and its contents were inadequate, have been empowered to increase them. The annual audit of the College accounts, previously undertaken by the Censors' Board—a survival of the time before the Finance Committee was established—has been placed, by an alteration of Bye-law LVII, in the hands of the Finance Committee with the assistance of a professional accountant.

CENSORS' BOARD.

The following are the entries and results of the Membership Examination :—

April, 1922 ..	Entries	17	Referred	8	Approved	9
July, ,, ..	,,	22	,,	8	,,	14
October, 1922 ..	,,	24	,,	9	,,	15
January, 1923 ..	,,	27	,,	12	,,	15
		90		37 or 40 per cent.		53 or 60 per cent.

Hitherto it has been the custom for the Censors' Board to grant exemption from the languages and the pathology to all candidates over 40 years of age, but the Board has now resolved that, on and after October, 1923, exemptions will no longer be granted solely on the ground of age.

ALTERATIONS OF BYE-LAWS AND RESOLUTIONS.

Towards the end of the Presidential year, 1921-1922, the Censors' Board at the request of the College, considered the bearing of certain Bye-laws and Resolutions of the College upon the recent developments of medical practice known as "group practice" and "institutional treatment," and on 11 May, 1922, presented a report on this subject, followed by certain proposals for alteration in the bye-laws. This report met with much criticism and was referred back to the Board, who reconsidered it at several meetings, and presented an amended report on 13 July.

The College again considered these recommendations at much length, particularly with reference to the questions (*a*) what financial relations should be allowed between Fellows or Members and Companies which undertake the treatment of disease for profit (*b*) whether the restrictions as to partnership, dispensing, etc., at present imposed on Fellows and Members, should be maintained. These questions were discussed by the College on 13 and 20 July and 19 October, the opinion of Counsel upon certain points and upon the wording of a resolution was obtained, and eventually the following alterations in the bye-laws were made: the net result is (*a*) to remove, so far as Members are concerned, the restrictions as to partnership, dispensing, disposal of practices, etc., and (*b*) to define the relations allowed between Fellows or Members and Companies or Institutions having for their object the treatment of disease for profit.

I. Bye-law No. CLXXVIII, which formerly read as follows:—

> "No Fellow or Member of the College shall be engaged in trade, or dispense medicines, or make any engagement with a Chemist or any other person for the supply of medicines, or practise Medicine or Surgery in partnership, by deed or otherwise; or be a party to the transfer of patients or the

goodwill of a Practice to or from himself for a pecuniary consideration."

has been altered to read as follows :—

" No Fellow of the College shall be engaged in trade, or dispense medicines, or make any engagement with a Pharmacist or any other person for the supply of medicines, or practise Medicine or Surgery in partnership, by deed or otherwise ; or be a party to the transfer of a Practice to or from himself for a pecuniary consideration."

II. Bye-law No. CXIV, relating to candidates for the Membership, which formerly read as follows :—

" No candidate shall be admitted to examination who is engaged in trade ; or who dispenses medicine, or who makes any arrangement with a Chemist or any other person for the supply of medicines ; or who practises Medicine or Surgery in partnership, so long as that partnership continues."

has been repealed.

III. The Resolution passed by the College on October 25th, 1888, which formerly read as follows :—

" That it is undesirable that any Fellow or Member of the College should be officially connected with any Company having for its object the treatment of disease for profit."

has been altered to read as follows :—

" That subject to the general provisions of Bye-law CXC, it is undesirable that any Fellow or Member of the College should have any financial interest (whether direct or indirect) in any Company or Institution having for its object the treatment of Disease for profit, other than the receipt by him from such Company or Institution of (1) *a fixed salary, or* (2) *fees, for such services as he may render to such Company or Institution in his capacity of medical practitioner."*

LECTURESHIPS.

In April, 1922, the Finance Committee drew the attention of the College to the financial position of the Lecture trusts; whereas the income of some of the trusts, notably the Croonian or "Sadlier" trust, was more than sufficient to meet the demands upon them, the income of others, and particularly the Goulstonian and Lumleian, was not adequate to pay the Lecturer's honorarium; further the College had in the past been legally advised that the surplus of one trust could not be used to supply the deficit of another. It was also suggested by the Censors' Board that the number of lectures delivered annually at the College might with advantage be reduced. The whole question of the lectures was accordingly referred to the Censors' Board. The Charity Commissioners were therefore approached, and their permission has now been obtained to use some of the Croonian surplus in helping the Goulstonian and Lumleian trusts, and further to make any reasonable alterations as regards the delivery of lectures in general.

The Lloyd Roberts Lectureship.—The Lloyd Roberts Lecture trust is a new one, instituted under the will of the late Dr. Lloyd Roberts of Manchester, who left £500 to each of five Bodies, two in Manchester, and three in London, for the provision of an annual lecture on any subject of medical or scientific interest. The three London Bodies concerned are the College, the Medical Society of London, and the Royal Society of Medicine. It was suggested by the Royal Society of Medicine that the three London Bodies should combine so that one instead of three lectures should be given annually; the arrangements for such a combination were entrusted to the Censors' Board. With the consent of the Trustees to this change and with Counsel's opinion as to the procedure, an informal arrangment has been made between the College, the Medical Society of London, and the Royal Society of Medicine, whereby one lecture is to be delivered annually, each of the three Bodies nominating the lecturer in turn, and all three paying their yearly quota towards his honorarium each year. The

first lecture will be delivered at the College on Tuesday, 20 November next, by Edmund Gosse, Esq., C.B., nominated by the Censors' Board.

DISCIPLINARY BUSINESS OF THE CENSORS' BOARD.

The General Medical Council reported that the names of three Licentiates had been removed from the Medical Register for " infamous conduct in a professional respect." The Censor's Board investigated these cases, and on their Report, the College withdrew the Licence in each case. On the other hand, the College, on the advice of the Censors' Board, has restored his Diploma to a Licentiate, from whom it was withdrawn in April, 1919.

COMMITTEE OF MANAGEMENT.

There has been much extra business, and several additional meetings have been held. The business has arisen largely from the re-modelling of the examinations and course of study for the diplomas of L.R.C.P. and M.R.C.S., as determined by the two Colleges in the Presidential year 1921-1922. The changes then agreed upon entailed a re-construction of the Regulations and Synopses issued by the Committee of Management. The new Regulations, both those relating to the Licence and those relating to the Preliminary or " Pre-Medical " Examinations, have since been submitted to the College and approved.

In addition, the General Medical Council have issued new Rules concerning the Diploma in Public Health (a Diploma which is altogether under their control), and this also means the issue of corresponding new Regulations by the Colleges. Concerning some of the Council's Rules, which seem to bear hardly on medical men practising or serving with the Forces abroad, the two Presidents have, at the request of the two Colleges, communicated with the Council, in the hope of obtaining some modification of them.

Some serious difficulties arose concerning an application from the Cardiff School of Medicine (University of Wales) to be recognised for the complete curriculum. The Committee discussed these difficulties personally with a deputation from Cardiff, and were able to advise the College to grant a temporary recognition, which under certain conditions will become permanent in October, 1923.

The Committee, at the request of the College, has considered the question whether the two Colleges should issue a conjoint Diploma in the subject of Throat, Nose, and Ear Disease, and have advised that this should be done. This will make the fifth of the conjoint Diplomas in Special Subjects.

By the death of Sir James Galloway, the Committee has lost a most valued and energetic member. Dr. R. A. Young has been appointed in his place.

THE LIBRARY.

The Library continues to grow at about the rate of 700 volumes a year. The collection of some six thousand engravings, one of the finest in the kingdom, has now been catalogued. Mr. H. M. Barlow, the assistant librarian, is now engaged in cataloguing the legal documents of the College, some hundreds in number, which contain much valuable information bearing on its history and business transactions. An inventory is also being made of the portraits, busts, silver and other possessions of the College.

The Harveian Librarian has been laudably active in exhibiting the art treasures of the College, and since the beginning of the year four societies interested in history and antiquarian research have thus been entertained by him on Saturday afternoons.

Obituary Notices of the Fellows.

During the Presidential year there have been 10 deaths or 3·7 per cent. For the 22 years 1901-1922 the average annual number of deaths was 9, for the 25 years 1876-1900 it was 10·5, and 6 for the 25 years 1851-1875, when the number of Fellows was, at any rate during the earlier years, about half that at present. The average age of the 10 deceased Fellows was 72 years, the youngest (Dr. W. H. R. Rivers, 58) and the oldest (Dr. A. Ransome, 88) being country members. Chronologically the first six deaths were among the Country Fellows and the last four among those in London.

ROBERT SHINGLETON SMITH.

Robert Shingleton Smith, who died on 15 April, 1922, at Clifton, Bristol, after practising there for more than half a century, was born on 24 August, 1845, at Charlton Horethorne, on the Dorsetshire border of Somerset. Educated at Taunton School, afterwards known as Queen's College, he was for a time apprenticed to a doctor at Shepton Mallet, and thus gained a practical introduction to his profession. His career at school, at King's College, and at King's College Hospital, was brilliantly punctuated by frequent prizes and scholarships; after gaining the B.Sc. London in 1866 and the gold medal in obstetrics at the London M.D. in 1868, he remained as Medical Registrar at his hospital for two years, and then, abandoning the prospect of the staff which a wait should have made highly probable, he took a resident post at the Bristol Royal Infirmary, to which he was elected Physician in 1873 and Consulting Physician in 1905. He became a Member of our College in 1877 and a Fellow in 1885, Hon. M.D. Bristol in 1912, and was an honorary Fellow of King's College, London (1882).

He did much valuable work in connection with the foundation of University College, Bristol, which became the University of Bristol in 1908, lecturing successively on physiology (1874-1887), pathology (1887), and medicine (1888–1894), and in 1908 was nominated Emeritus Professor of Medicine in the

University. The revival of the Bristol Medico-Chirurgical Society in 1874 was largely due to his energy, for he was secretary from that year until 1888, when he became its President. In addition he was for 20 years, 1892-1912, Editor of the *Bristol Medico-Chirurgical Journal*, to which he contributed 18 out of his 56 published papers. Its first number in July, 1803, contained his "The Proofs of the Existence of a Phthisical Contagion," a subject on which he wrote some ten other papers, no doubt stimulated by personal interest, for in 1875 threatened pulmonary tuberculosis necessitated his temporary absence from this country. In 1904 he played a prominent part in the establishment of the Winsley Sanatorium for Consumptives.

He was a general physician with a scientific mind, accurate in diagnosis, and resourceful in treatment; he was devoted in his services to the Bristol Medical School, an unselfish colleague, and a model of charity. A man of broad interests, he was an expert in natural history, gardening, astronomy and in antiquarian lore. Unfortunately the close of his busy and valuable life was saddened by the death of his wife, two sons, and two daughters.

HENRY DAVY.

By the death from cerebral hæmorrhage on 10 May, 1922, of Sir Henry Davy, there passed away in the full tide of active work a leading consultant of the West Country. Born 18 January, 1855, as the youngest son of Henry Davy, a solicitor at Ottery St. Mary, our future Fellow was a Devonian and was not related to Sir Humphry Davy, the Cornishman. After education at Honiton Grammar School, he proceeded to Guy's Hospital, where he had a brilliant career, being so inspired by the *genius loci* that just before qualification in 1877 he contributed a paper on the microscopical characters of the blood in pernicious anæmia (with G. Mackern, *Lancet*, 1877, i, 642). An ardent disciple of the pathological teaching of Wilks and Moxon, he won the Gurney-Hoare prize for an essay on "Antiseptic Surgery and Pyæmia" (*Guy's Hospital Reports*, 1878). In 1880 he took the Membership of our College and settled in Exeter, becoming in 1881, when only

26 years old, Physician to the Royal Devon and Exeter Hospital, a post which he occupied until 1921. He became a Fellow in 1894 and served on the Council in 1919.

At the Annual Meeting of the British Medical Association at Exeter in 1907 he was President and delivered a prophetic address on "Science in Application to National Health" (*Brit. Med. Journal*, 1907, ii, 245); it was appropriate that in the following year at the Sheffield Meeting of the Association the University conferred on him the Honorary Degree of D.Sc.

During the great war he was from 18 July, 1915, to 3 November, 1919, Consulting Physician to the Southern Command, covering the district from the Land's End to Southampton and including Warwickshire, Worcestershire and Gloucestershire, and for his services was awarded the C.B. (January, 1917) and K.B.E. (June, 1919). He was much interested in the functional disturbances due to war conditions and gave an address on the results of his experiences entitled "Some War Diseases" (*Brit. Med. Journal*, 1919, ii, 837).

Davy was a practical physician in the best sense of the term and from constant observation had developed that power of intuition in diagnosis known as clinical instinct. Much in demand in consulting work, he was a doctor's doctor and probably had little time to write, but whatever he did was good and it may be noted that as recently as 25 March, 1922, he published a case of dissecting aneurism of the aorta (*Brit. Med. Journal*, 1922, i, 471).

Outspoken and genial he was much given to hospitality and as Sheriff of Exeter in 1887 he took every opportunity of this pleasant method of meeting his fellows. Though devoted to his professional work, he had other interests: golf gave him exercise, fly-fishing opportunity for meditation in the country that he loved, and old English china, of which he had a choice collection, and was a fine judge, provided the hobby that no member of our profession should be without.

WILLIAM HALSE RIVERS RIVERS.

By the death at Cambridge of William Halse Rivers Rivers on 4 June, 1922, after about twelve hours' acute abdominal obstruction necessitating operation, this College

lost one of her most distinguished Fellows and a leading authority in a remarkably broad field, namely, the physiology of the sense organs, psychology, and anthropology, all of which he combined as different aspects of the same problems—the biological reaction of man to his environment and the fuller understanding of the mind of man. These branches of science are very seldom efficiently mastered by one man so able, as Rivers eminently was, to show one half of the scientific world how and why the other half lived. Though appearing somewhat shy, perhaps from his rather appealing stammer, he was distinguished by a wide and discriminating sympathy which gave him the faculty of making friends among all sorts and conditions of men ; he was delighted to find worth in the humblest. With a high sense of duty and intellectual rectitude, he was a prospective candidate in the moderate labour interest for the University of London seat in Parliament, and a future of great public service is thus closed prematurely.

His life may be divided into three periods : (I) Born on 12 March, 1864, at Luton, near Chatham, Rivers was the son of the Rev. H. F. Rivers, Vicar of St. Faith's Maidstone ; many of his father's family had been naval officers, and his great grandfather was Lieut. W. Rivers, R.N., who was so severely wounded at Nelson's side in the *Victory*, that the great Admiral's last words to Sir William Beatty were " take care of young Rivers." His maternal uncle, James Hunt, ethnologist and writer on stammering, in 1863 founded and was the first President of the Anthropological Society, the parent of the Royal Anthropological Institute, of which his nephew became President.

Educated at Tonbridge School (1877-1880), a severe attack of enteric fever frustrated Rivers' intention of going to Cambridge, and accordingly he entered St. Bartholomew's Hospital in 1882, took the M.B. London, 1886, and was house physician 1888-1889 to Dr. Samuel Gee, taking the place of Professor E. G. Browne, then travelling in Persia. His attention was early directed to the nervous system, for in 1888 his first published article on " a case of spasm of the muscles of the neck " appeared (*St. Barth. Hos. Reps.*, xxiv, 249). The next year he read a paper before the Abernethian Society on " Delirium

and its Allied Conditions," and in 1891 he was house physician at the National Hospital, Queen Square. After working at Jena in 1892 he became attracted to the study of insanity and psychology, and was clinical assistant at Bethlem Hospital where his work was interrupted by an attack of scarlet fever. In 1893 he lectured at Guy's Hospital on psychological medicine and on experimental psychology at University College Hospital. But in October of that year Sir Michael Foster invited him to undertake the physiology of the sense organs at Cambridge.

(II) The second period, while at Cambridge, from 1893 to 1914, was one of great activity and expanding scope; he began as lecturer on the physiology of the senses, the masterly article on "Vision" in Schäfer's *Textbook of Physiology* (1900) showing the character of his teaching, and in 1897 he was appointed University lecturer in physiological and experimental psychology. Recognising that the disappearance of primitive races under alien influence made the investigation of their ethnological problems urgent before the opportunity was lost for ever, Rivers, accompanied by his pupils, C. S Myers and W. MacDougall, went out in 1898 as psychologist on the Cambridge Anthropological Expedition to Torres Straits; he thus became so much interested in the genealogical investigation of social organizations that he returned a keen ethnologist, and thus entered on a line of work in which he became a leader. In 1902 he went to Southern India to study the Todas, a small primitive race in the Nilgiri Hills, and again proved the value of his kinship method ("The Todas," 1906); in 1908 and again in 1914 he undertook expeditions to Melanesia, and published the "History of Melanesian Society," which he regarded as his most important contribution to science. Speaking of his published works on these expeditions, Dr. C. S. Myers says "Nowhere does he disclose more clearly the admirable scientific bent of his mind—his insistence on scientific procedure, his delight in scientific analysis, and his facility in adapting scientific methods to novel experimental conditions." Of his well known association with his friend, Henry Head, in the epoch-making research on protopathic and epicritic sensation "A human experiment in nerve

division" carried on during the four years 1903-1907, Sir Charles Sherrington wrote "conjoint originality and freshness of view marked their investigation as a restart in the whole subject."

(III) During and after the war his activities were altered in some respects from those of the purely scientific investigator by their more practical application to mankind. In July, 1915, he was engaged in war work at the Maghull Military Hospitals, which were specially devoted to soldiers suffering from the psychoneuroses induced by war strain; he then went to a post of greater responsibility at a similar institute for officers at Craiglockhart, Edinburgh, and in the autumn of 1917 was made consulting psychologist to the Central Flying Hospital, Mount Vernon, Hampstead, where he made many researches into the mental phenomena of flying. By his contact with officers and men he exerted a quiet but lasting influence on their lives as was shown by the number to whom he subsequently acted as best man. From his experience and his previous psychological knowledge he was enabled to write several works, such as "Instinct and the Unconscious" in whch he accepted many of Freud's conclusions but with a critical rejection of the predominance of the sexual factor at any rate in the war psychoneuroses with which he was mainly concerned in these contributions. In his posthumous book, "Conflict and Dreams" (1923), attention was directed to the fallacies of the Freudian interpretation of symbolism and particularly of sexual motives and symbols which have been responsible for most of the opposition to Freud's teaching. This work is described by his friend the editor, Elliot Smith, as essentially an analysis of his own dreams and as an intimate revelation of his own personality. After the war he returned to St. John's College, Cambridge, as resident Fellow and Praelector in Natural Sciences, where his fascinating lectures and sympathetic interest rapidly made a deep impression on his pupils.

At this College he became a Member in 1892, a Fellow in 1899, gave the Croonian lectures in 1906 on "The Influence of Alcohol and other Drugs on Fatigue" (London, Edward Arnold, 1908), the FitzPatrick lectures in 1915 and 1916 on "Medicine, Magic and Religion,"

and was on the Council at the time of his death. Many distinctions came unsought to Rivers; he was elected a Fellow of the Royal Society in 1908 and was awarded a Royal Society's medal in 1915; St. Andrews' made him an honorary LL.D.; Manchester, a D.Sc.; he was President of the Royal Anthropological Institute, of the Folk Lore Society, and President elect of Section J, Psychology of the British Association at Hull (1922), where his successor, C. S. Myers, gave an appreciative address on "The Influence of the late W. H. R. Rivers on the Development of Psychology in Great Britain"—a fine tribute well deserved.

EDWARD MALINS.

Sir Edward Malins, who died on 23 July, 1922, at 50, Newhall Street, Birmingham, was born 22 December, 1841, at Liverpool, and was the son of Samuel Malins, M.D. After education at King Edward's School, Birmingham, he became a medical student in Edinburgh, taking the degrees of M.B., C.M (1866), and M.D. (1869), and having the advantage of being assistant to Sir James Simpson. In 1877 he was elected Obstetric Physician to the General Hospital, Birmingham, and carried on his duties until 1903; in the meanwhile he had become Professor of Obstetrics (1894) and after 18 years' service was made Emeritus Professor in 1912. His personal influence was entirely wholesome and good, and the high esteem he inspired among those best able to judge was shown by his election in 1903 as the first provincial President of the Obstetrical Society; further, as a recognized authority he contributed to Playfair and Allbutt's System of Gynæcology (1896).

He became a Member in 1888 and a Fellow of our College in 1902, and should be held in grateful remembrance for having conveyed to the College the sum of £500 entrusted to him for the purpose of the study of tuberculosis by Mr. F. W. Mitchell, and thus originating the Mitchell triennial lecture on this subject.

Malins, who was knighted in April, 1919, took a very active part in the political and social life of Birmingham; he was a vice-president of the Conservative Association,

a Justice of the Peace for Warwickshire and Birmingham, twice President of the Birmingham University Graduates Club, and President of the Debating Society.

ARTHUR RANSOME.

Arthur Ransome, who died on 25 July, 1922, in his 89th year, at Bournemouth, where he had lived in retirement since 1895, came of a distinguished surgical stock. His grandfather, John Atkinson Ransome (1779-1837), was Honorary Surgeon to the Manchester Infirmary from 1806 to 1837, and his lectures on the principles and practice of surgery are stated to have been the first in the provinces to be recognized by the College of Surgeons; he also broke new ground by suggesting the use of catgut or silk for the ligature of arteries on the ground that, being of animal origin, they would be more easily absorbed.* His son, Joseph Atkinson Ransome, Honorary Surgeon to the Manchester Royal Infirmary, 1843-1866, and the first to use carbolic acid in the treatment of septic wounds, was the father of our late Fellow, Arthur Ransome, who was born at Manchester on 11 February, 1834.

After education in his native town and at Trinity College, Dublin, Arthur Ransome proceeded to Caius College, Cambridge, where he was a scholar and in1856 not only took honours (Senior Optime) in the Mathematical Tripos, but was placed in the first class of the Natural Sciences Tripos with distinction in chemistry, physiology and comparative anatomy. After working at St. George's Hospital he took the M.B. in 1858 and became M.D. eleven years later ; he had previously taken the M.R.C.S. (1855) and the L.S.A. (1856). He then settled down in general practice at Bowdon, Cheshire, and became the pioneer of Public Health in the district. In 1874 he was appointed Lecturer on Hygiene at Owens College, Manchester, and subsequently Professor of the same subject in the Victoria University, resigning in 1895. In the prevention of tuberculosis and in the open air treatment of this disease he did a great work, as may be seen by the collection of his papers entitled "The

* Brockbank, E.M. "The Honorary Staff of the Manchester Infirmary," p. 226, 1904.

Campaign against Consumption," brought out by the Cambridge University Press in 1914. Of his earlier publications attention should be called to "On Stethometry" (1876), "Prognosis in Lung Disease" (1882), "Causes of Consumption" (1884), "Causes and Prevention of Phthisis" (Milroy Lectures, 1890), "Treatment of Phthisis" (1896), "Principles of Open Air Treatment and of Sanatorium Treatment" (1903), and to many papers in the proceedings of the Royal Society and other learned bodies. His views on tuberculous re-infection were very precise ; for noticing the frequency with which an interval of three to six weeks intervened between a patient's discharge from a Sanatorium and return of symptoms he concluded that this was the usual incubation period of tuberculosis. He worked on the action of sunlight on the tubercle bacillus and showed that it might persist on damp wall papers and thus provide a source of continued infection. When the controversy as to the relative importance of the "soil" and the "seed" in tuberculosis was acute he took the broad view that both were effective factors. His work met with due recognition for, in 1885, he received the honour of F.R.S., in 1892 he was elected an honorary Fellow of Gonville and Caius College, and in 1897 he was the first recipient of the Weber Parkes prize, awarded triennially by this College. As was only right, for one so prominent in the teaching and advance of hygiene, he acted as examiner in this subject at Cambridge and at the Victoria University. That his reputation had reached Germany was shown by his associate editorship of the *Zeitschrift für Tuberculose.*

At this College he gave the Milroy Lectures on "The Causes and Prevention of Phthisis" in 1890, but did not become a Member until he left Manchester in 1895, though he was rightly made a Fellow at the earliest possible opportunity in 1899. During the quarter of a century that he spent in semi-retirement at Bournemouth he was still active in literary work and was Consulting Physician to the Royal Victoria and West Hants Hospital.

CORNELIUS BENJAMIN FOX.

Cornelius Benjamin Fox died on 16 September, 1922, in his 84th year, after 43 years in retirement at Ilfracombe,

and was for this reason, and because his field of activity had been that of Medical Officer of Health for Essex (1875-1881), practically a name only to the Fellows of the College. In his early professional life he was an industrious contributor of many papers to the medical journals and the author of some books; his writings, which mainly dealt with sanitation, included :—" The Laryngoscope and some of its Physiological Revelations " (1866), " The Sympathy between the Auditory Canal and the Larynx " (1866), " Clinical Thermometry " (1869), " Ozone and Antozone " (1873), " Water Analysis as it should and as it should not be performed by the Medical Officer of Health " (2nd edition, 1875), " Coke as a Fuel in relation to Hygiene " (1873), and " A Vade-mecum for Medical Officers of Health " (2nd Edition, 1886).

He was born at Truro on 4 September, 1839, and was educated medically at King's College, London, and at Edinburgh, where he proceeded to the M.D. degree with honours in 1864. After working for some time in Paris he started practice at Scarborough and subsequently published observations on its meteorological conditions. In 1873 he was appointed Medical Officer of Health for Central, East and West Essex, and discharged the duties of this post with great energy for six years, when ill-health necessitated his resignation. Retirement, however, did not mean idleness, for a number of papers and second editions of his sanitary works, such as " Sanitary Examination of Water, Air, and Food " (2nd Edition, 1886), appeared after his retirement, and no doubt this mental occupation favoured longevity. He became a Member of our College in 1864 and a Fellow in 1881.

JAMES GALLOWAY.

Sir James Galloway's death on St. Luke's Day, 18 October, 1922, after an acute illness, due to the complications of renal calculus, removed an active member of the Committee of Management, the Second Censor of last year, and a member of the Library Committee; his services to the College were, therefore, on the same lines as those of our late President, who followed his junior into the valley of the shadow six weeks later.

Of an Aberdeen stock, James Galloway was born in October, 1862, at Calcutta, where his father was in business. Educated at the Chanonry Schools, Aberdeen, he proceeded to the degrees of M.A. (1883), M.B., C.M. (1886), and M.D. with highest honours (1892), at the University of Aberdeen which made him an honorary LL.D. in 1919. In 1889 he took the F.R.C.S., England, and worked at the London Hospital under the late Sir Stephen Mackenzie, whose influence appears to have led to his becoming, like his teacher, a general physician, with a special interest in skin affections. British dermatology, indeed, owes much to the broad outlook of men, such as Payne, Mackenzie, Pringle and Galloway, who were physicians first and dermatologists afterwards. During his early years of waiting Galloway worked hard at pathology, and that he rapidly made his mark is shown by his selection by the Royal College of Surgeons of England in 1893 to give the Morton Lecture on Cancer, which had been delivered the year before by the late Sir German Sims Woodhead, and the year after was entrusted to Professor S. G. Shattock, when the endowment for this lecture was exhausted. His review "On the Parasitism of Protozoa in Carcinoma" showed the wise caution that always characterized his conclusions, for he left the causal nature of the appearances then enthusiastically acclaimed as parasites by some prominent pathologists an open question.

His association with Charing Cross Hospital, begun in 1894 with the appointment of Physician to the Department for Diseases of the Skin, which he held till 1914, was cemented by his election as Assistant Physician (1901), Physician (1906), and Consulting Physician (13 October, 1922). During the war he was consultant to the first and second armies of the British Expeditionary Force, and was awarded C.B. in 1917. As an examiner in Medicine at the Conjoint Board, the Universities of London and Aberdeen, and elsewhere, his position as a general physician was fully recognized, and that he was an established authority on dermatology, the presidency of Sections devoted to that subject at the British Medical Assocation (1911) and the Royal Society of Medicine (1917-18), and the honorary membership of the French and Netherland Societies bear witness. His outlook on Medicine was

broad and judicial, and his personal properties of common sense, tact, patience, and moderation made him an invaluable member of committees; after the South African War he served on the Advisory Committee for the Army Medical Services, which remodelled the Royal Army Medical Corps; and after his return from service in France in 1917 he was made Chief Commissioner for Medical Services, Ministry of National Service (K.B.E., 1918).

He became a Member in 1889 and a Fellow of our College in 1897, was a Councillor 1916-18, and as Censor 1920-22; served during a period when the work was hard not only from the increased number of candidates for the Membership but on account of the consideration of the question of altering the regulations as regards partnership.

Galloway took a keen interest in medical history and wrote a number of articles: "Historical sketches of Old Charing," "The Story of St. Mary Roncevall" (1907), "Eleanor of Castile, Queen of England and the Monuments erected to her Memory" (1908); and had planned a book on the relations of English Hospitals to Monasteries. He was a geologist, a keen musician, and in early life an accomplished pianist. Possessed of a happy humour, never apparently hurried, and always willing to take trouble and to help, he inspired confidence and in return received the high compliment of being much consulted by members of his profession about their ailments.

NORMAN MOORE.

Sir Norman Moore, who only retired from this chair a year ago, died peacefully at Hancox, Whatlington, Sussex, near Battle, on 30 November, 1922. He was born on 8 January, 1847, at Higher Broughton, Lancashire, and was the only son of Robert Ross Rowan Moore (1811-1864), a graduate of Trinity College, Dublin, a barrister by profession, but mainly known as a political economist and as a vigorous colleague of Cobden and John Bright in the Anti-Corn Law campaign; coming of an old Ulster family and dying comparatively young, he left his wife, who belonged to the Fishers, a Munster family of mingled Cromwellian and native Irish descent,

in rather straitened circumstances. There is a notice of him in the *Dictionary of National Biography* by his son.

In 1856 Norman Moore went to the Castle Howell School at Lancaster, under the Rev. W. H. Herford, and about this time acquired the Irish tongue from his maternal grandmother and from a Manchester shoemaker. In 1863 he became a student at Owens College, Manchester, and came into most kindly relations with Charles Waterton (1782-1865) who, like Gilbert White, of Selbourne, Hans Sloane, James Petiver and Joseph Banks, took all nature as his province. The broad influence of Waterton whose "Essays on Natural History" he edited and supplemented with a short life in 1871, did much to interest Moore in field natural history and attracted him to hawking, thus accounting for his often carrying a hawk on his wrist when taking long walks. As evidence of the affection in which he was held by this family, it may be mentioned that Edmund Waterton was anxious that he should accept the family's first folio of Shakespeare, but Moore felt bound to decline this generous offer.

In October, 1865, he entered St. Catharine's College, Cambridge, and soon came under the influence of men who certainly coloured and probably in some respects altered his future life. As a natural science student he was befriended by Professor Alfred Newton, familiarly known as "the bird man," who sent him on his first visit to the continent as the bearer of some bones of the dodo, obtained by Newton's brother in Mauritius, to Professor Schlegel, of Leyden, to prove the correctness of Newton's view as to the position of this extinct bird. But more important events were the foundation of a thirty years' friendship with the Rev. Whitwell Elwin, the editor of the *Quarterly Review* and of Pope's works, who initiated him into a knowledge of medieval handwriting, and the further guidance in palæography of Henry Bradshaw, the University Librarian, who has been described as "the one man in whose hands bibliography had become an exact science." Moore was College Librarian, a post always held by an undergraduate and founded by Thomas Sherlock, Master of St. Catharine's (1714-1719), and subsequently Bishop of London (1748-1761).

Early in 1869 he took the second place in the second class of the Natural Sciences Tripos, there being no one

in the first class, and shortly afterwards removed to St. Bartholomew's Hospital, where, in due course, he was House Physician. In 1874, while holding this post, he was appointed Warden of the College, a post whch he held until 1891, when he moved to Gloucester Place, and Lecturer on Comparative Anatomy from 1874 until 1885. In 1873 he became a Member and in 1877 a Fellow of this College, having in the interval read a thesis for the M.D. Camb., " The Cause and Treatment of Rickets," in which he characteristically discussed the relation of Daniel Whistler's inaugural thesis of 18 pages at Leyden in 1645 (reprinted in 1684 in London) to Francis Glisson's " De Rachitide " of 416 pages in 1650 ; to this subject he returned in his paper " The History of the first Treatise on Rickets " in 1884 (St. Bartholomew's Hospital Reports, xx, 71). In 1883 he was elected assistant physician to St. Bartholomew's Hospital, becoming full physician in 1902 and consulting physician in 1911 on attaining the age limit of 65 years.

He served a long apprenticeship in the post-mortem room at St. Bartholomew's Hospital and lectured on pathology for six years ; from the extensive experience thus gained he wrote a text-book, " The Pathological Anatomy of Diseases arranged according to the Nomenclature of the Royal College of Physicians " (1889), a companion volume to Bowlby's " Surgical Pathology" (Churchill), and gave the Bradshaw Lecture (1889) on " The Distribution and Duration of Visceral New Growths." His subsequent literary distinction has rather dwarfed the pathological work of his earlier hospital career, when he was active at the old Pathological Society of London and a member of the Morbid Growths Committee for 11 years (1889-1900). In 1893, nine years before he became full physician, for promotion was very slow then, he began to lecture on Medicine and continued until 1911, when he was made Emeritus Lecturer ; in the meanwhile he had given the Harveian Oration (1901), full of historical lore about the benefactors of this College, and the Lumleian Lectures on "Rheumatic Fever and Valvular Disease" (1911).

During most of the 37 years that he was constantly within the hospital walls, and even later, he was collecting material, as is shown by various addresses to the Abernethian Society and by papers in the Hospital

Reports, for his great *History of St. Bartholomew's Hospital* in two quarto volumes ; this labour, which assuredly was one of love both for the Institution and the matter, well illustrates his gift for making the results of prolonged research attractive ; the biographies of the hospital officers are creative, critical, and crisp, as would be expected from the author of 459 lives (chiefly of medical writers) in the *Dictionary of National Biography*, who made it a rule to read everything that the man had written before summing up his life. The Rede Lectures at Cambridge in 1915 on " St. Bartholomew's Hospital in Peace and War " also dealt with a subject on which he was an unrivalled authority.

His output of medical history was enormous and always attractive ; he gave the FitzPatrick lectures on " The History of the Study of Medicine in the British Isles " in 1905 and 1906 (Clarendon Press, Oxford, 1908), the Finlayson Memorial Lecture at Glasgow on " The Schola Salernitana " in February, 1908, the Linacre Lecture at St. John's College, Cambridge, on " The Physician in English History " in 1913 (University Press, Cambridge, 1913) ; and together with his pupil, Stephen Paget, was responsible for the Centenary Volume (1805-1905) of the Royal Medical and Chirurgical Society, of which, and of its continuation the Royal Society of Medicine, he was honorary librarian from 1899–1918.

His knowledge and affection for the Irish language and literature are shown by the " History of Medicine in Ireland " (*St. Barth. Hosp. Rep.*, 1875, xi, 145), by his translation of Ernst Windisch's " Concise Irish Grammar " (1882), an edition of the Irish text with a translation of " The Loss of the Crown of Loegaire Lurc " (1883), and the reprint of the 1792 edition of Samuel Burdy's " Life of the Rev. Philip Skelton " (Oxford, Clarendon Press, 1914) ; in his introduction to this last he points out that Ulster was the home of literature from very early times and has produced a long series of men of letters during fourteen centuries. His election as a Fellow of the Royal College of Physicians in Ireland in 1912 was thus in the natural order of things. An aristocrat in letters, he was a pioneer in the popularization of Medical History as was recognized by the Presidency of the Historical Section of the XVIIth International Congress of Medicine in London (1913), of the International Congress of the History of Medicine in

London (1922), and of the History of Medicine Section of the Royal Society of Medicine (1914-1916). He was an honorary LL.D. of Cambridge and an honorary Fellow of his old College, St. Catherine's.

Corresponding with his acquaintance with literature Moore had a wide circle of friends in all walks of life, such as Leslie Stephen, Charles Darwin, Richard Owen, W. J. Craig, the Shakespearian scholar, Evelyn Wood, George Paget, Robert Browning, J. R. Green, Whitley Stokes and other Irish writers, as well as many needy Irishmen who, when stranded in London, obtained his kindly help. Moore's conversational powers were remarkable for the store of curious anecdote ; in listening to him there was always the pleasant anticipation of a coming surprise, tempered by the doubt as to one's knowledge of some past medical worthy whose habit or saying was brought forward to point a moral or adorn a tale.

Seldom has this College had a more devoted son ; from its inception in 1883 he was a member of the quiet but effective Committee of Management which first planned and continuously directed the Conjoint Board examination. For 21 years (1901-1922) he represented the College on the General Medical Council and vigorously stood up for our rights ; he thus played a very important part in the far-reaching developments that have occurred in medical education. For eight years (1910-1918) he was Harveian Librarian ; and here a reference may be made to the short but charming essays which he wrote for the Fellows' Club, which are not so widely known as their graceful scholarship deserves. In 1918 his election as President fulfilled a cherished ambition, and now as before, his aim was to maintain and add to its reputation and high position. Though instrumental in many changes he weighed with great care and caution any alteration in the constitution of this great body.

Thus as a general physician, a man of letters, and as a President of the College, we lament a Scholar-Physician of a type rare in any age and far more difficult of attainment now from the intensive specialization of knowledge. That we shall look upon his like again is most improbable, but his example will long remain an inspiration.

Sir Norman Moore was married in 1880 to Amy, daughter of William Leigh Smith, and had two sons, Alan, a Medical Officer of Health, who succeeds to the title, Gillachrist,

killed at Ypres in 1914, and a daughter, Ethne Philippa, married to Colonel W. M. Pryor, D.S.O. His wife entered the Roman Catholic Church about a year before her death (1901), and Moore at once followed her example. In 1903 he married his first wife's cousin, Millicent, daughter of General John Ludlow, and at their home, Hancox, at Whatlington, he resumed the habit of taking notes on natural history, which had been interrupted since 1871.

JOHN JAMES PRINGLE.

John James Pringle died on 18 December, 1922, at Christchurch, New Zealand, where he had gone in search of health, after quietly giving up his London work in August, 1922. Born on 17 June, 1855, at Lannhall, Tynron, Dumfriesshire, he was the third and youngest son of Andrew Pringle, of Borgue, Kirkcudbrightshire Although it has been stated that he was connected with the famous Sir John Pringle (1707-1782), one of the few (six) medical men who have been Presidents of the Royal Society and author of the classical "Observations on the Diseases of the Army" (1752), the evidence in possession of our late Fellow's family does not make this certain. After education at Merchiston Castle School, he obtained the M.B., C.M. at the University of Edinburgh in 1876 and then held a resident post in the Royal Infirmary. The next four years were spent in Vienna and Paris under the influence of those famous dermatologists, Hebra and Kaposi, Vidal and Fournier.

In 1882 he settled in London and was successively Medical Registrar (1883), Assistant Physician (1885-1895), Physician (1888), and Consulting Physician to the Skin Department at the Middlesex Hospital (1920), and was for seven years (1884-1891), on the Staff of the Royal Hospital for Diseases of the Chest. He became a Member of the College in 1884 and a Fellow in 1891. With the best training for special work, *i.e.*, an all-round knowledge of Medicine, Pringle was justly recognized as a master dermatologist, and by his death and that of Colcott Fox (1916) British dermatology has lost its most learned leaders. Such men write monographs rather than text-books, but Pringle edited the English translation of Jacobi's "Portfolio of Dermochromes" and "The Pictorial Atlas of Skin Diseases" (St. Louis Atlas), and

his name is closely associated with our knowledge of adenoma sebaceum, angiokeratoma, and Pringle's seborrhoïde. Energetic as an editor for some years (January, 1891-December, 1895), of the British Journal of Dermatology, being followed by Sir James Galloway (1896-1904), as Secretary for 16 years of the old Dermatological Society of London, as Secretary General of the Third International Congress of Dermatology held in London in 1896, and as President of the Dermatological Section of the Royal Society of Medicine (1913 and 1914), he was an excellent teacher, accurate, precise, and punctilious. It is no small evidence of his success that six of the dermatologists to London Hospitals had been his clinical assistants. That his distinction was recognized abroad is shown by his election as a corresponding member of the Dermatological Societies of France, Vienna, Berlin, Italy, and Lisbon.

He was a cultivated and many sided man, an excellent linguist, an accomplished musician, with a good voice, a modest gentleman, and a loyal friend. His pupil's words, "no one will ever know half of his kindly acts and generous deeds"* eloquently describe his reticent humanity. Always cheerful and smartly dressed, he bore his cross of progressive ill-health for many years with silent bravery, and during the war gladly gave his services, which were rewarded only by the sense of duty done, at what sacrifice but few knew.

NORMAN DALTON.

Norman Dalton, who died from arterio-sclerosis and arterial thrombosis on 9 March, 1913, was born in June, 1857, and was the youngest and last surviving son of the nine children of E. T. E. Dalton, the Postmaster of Demerara, British Guiana. Educated at Queen's College, British Guiana, until he was 16 years old, he then came to England and after two years at Christ's College, Finchley, entered the medical department of King's College, London, with which he remained connected in various capacities for life, and of which he was a senior Scholar and Fellow. He obtained his qualification to practice (M.R.C.S., L.S.A.) in 1879, took honours in Medicine and Obstetric Medicine at the final M.B., and

* *Vide* H. G. Adamson. *Brit. Journ. Dermatol.*, London, 1923, xxxv, 39.

proceeded to the M.D. of the University of London in 1882. In 1883 he was elected Pathological Registrar, and 10 years later became Professor of Pathological Anatomy in King's College, in succession to Professor A. B. Duffin. For 25 years he did a large amount of routine work in morbid anatomy, as is shown by his reports on the post-mortem examinations in each of the eight volumes (1893-1901) of the King's College Hospital Reports, of which he was for a time editor, and in which he also wrote "Notes on Abscess of the Liver" and "Chronic Enlargement of the Spleen." He was elected Assistant Physician in 1886 and became full physician in 1896, being eventually joint lecturer on Medicine. He was a popular teacher of morbid anatomy and of elementary medicine and served as examiner at the University of London and the Conjoint Board. Among the comparatively few papers that Dalton published, attention may be drawn to "A Method of Ascertaining the Position and Size of the Stomach by means of X-rays and a tube filled with Subnitrate of Bismuth," in conjunction with (now Sir) A. D. Reid (*Trans. Clin. Soc.*, London, 1905, xxxviii, 122), which shows that he had been employing this method since 1901, long before the general use of bismuth meals. He was the author of a small book, "Aids to Medicine" which was based on his teaching in a popular coaching class.

He became a Member in 1886, and in 1894 a Fellow of this College. Somewhat retiring, Dalton quietly bore many people's burdens and, remaining unmarried, looked after the scattered members of his family, and was the guardian of six children of a dead brother. Early in his career he was Resident Medical Officer at the Public Dispensary, Drury Lane, and remained Physician up to the time of his last illness, a month before his death; the affection he inspired among the patients was remarkable. Comparatively little known outside his home, hospital and dispensary, on which he concentrated his devotion, he leaves a gap which will be difficult to fill.

And now in conclusion let me thank the College for the high honour of being elected President and for the support during the last year, the Censors' Board for never failing assistance, and more especially the Registrar for wise guidance.

With the President's Compliments

THE ANNUAL ADDRESS

DELIVERED TO THE

ROYAL COLLEGE OF PHYSICIANS OF LONDON

On Monday, April 14, 1924

BY

THE PRESIDENT

SIR HUMPHRY ROLLESTON, K.C.B., M.D., D.C.L., LL.D.



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PRESIDENTIAL ADDRESS.

At the end of the Presidential year it has long been the custom to review the position and activities of the College and to read obituary notices of the Fellows who have passed beyond these voices. In the College Annals the first mention of any address is in 1862 when, after his first election, Dr. (afterwards Sir) Thomas Watson thanked the College; the first address in the possession of the College is Sir Thomas Watson's in 1866. It may be noted that before 1861 the President was elected, not by the Fellows, but by, and it would appear out of, the limited body of the eight Elects.

At the present time there are 371 Fellows of the College, as compared with 87 in 1824; of the present Fellows 12 have been elected under Bye-law XL (*b*) enacted 26 January, 1911, whereby registered medical practitioners not members of the College, who have distinguished themselves in any branch of the science or practice of Medicine, can be elected Fellows. Of these 12 there are 9 Fellows of the Royal Society.

Analysis of the present 371 Fellows appears to show that 258, or 67 per cent., are in practice as ordinarily understood; 165 of these are resident in London, 82 in the country, and 11 out of Great Britain. Of the remaining 113 Fellows 45 are or were in the Naval, Military or other Services, 19 are whole-time professors, and 49 are believed to have retired from ordinary practice; of these 49 there are 39 whose former sphere of activity was in London and 10 in the Country. London University heads the list with 146, or 39 per cent., of the 371 Fellows, then follow Cambridge with 97, or 26 per cent., Oxford with 52, or 14 per cent., Edinburgh with 35, or 9 per cent., Durham and Manchester 7, or 2 per cent., each, and Aberdeen with 4. Fifty years ago (1874) Edinburgh University headed the list, closely followed by London, and then came Cambridge, Oxford, and St. Andrews.

The number of Members on 1 January, 1924, was 636 as compared with 600 a year ago and 454 in 1900. Ten have died, and seven have been restored. There is one extra-Licentiate (1857).

The Licentiates number 14,902 as compared with 14,448 a year ago and 8,188 in 1900. During the year 182 have died, 25 have become Members, and 2 have been restored.

The Diplomates in Public Health number 1,088, in Tropical Medicine 212, in Ophthalmic Medicine and Surgery 88, in Psychological Medicine 55, and in Laryngology and Otology 2.

The steadily increasing number of Licentiates and Conjoint Diplomates has made the College List so unwieldy in size that it has been divided into two volumes. Vol. I contains all the matter that was in the previous single volume with the exception of the Lists of Licentiates and Conjoint Diplomates, which now form Vol. II, and with the exception of the Country List of Fellows and Members which has been omitted. Vol. I will be sent to every Fellow and Member annually. Vols. I and II will be sent to every new Licentiate when he takes his Diploma. Any Fellow or Member can have a copy of Vol. II (in addition to Vol. I) on application. The Treasurer, Dr. Sidney Phillips, has rewritten the brief accounts of the Lecture Trusts in Volume I of the List.

HONOURS.

The following honours have been conferred by His Majesty the King on Fellows, Members, Licentiates and Diplomates of the College during the year 1923-24 :—

Baronetcy : Sir Donald MacAlister (Fellow),
Sir Thomas Horder (Fellow).

K.C.B. : Sir William B. Leishman (Fellow).

K.C.V.O. : Arthur Reginald Bankart (Diplomate in Public Health).

Knighthood : Hector Mackenzie (Fellow).
W. J. R. Simpson (Fellow).
George Blacker (Fellow).
Ewen J. Maclean (Fellow).
Byrom Bramwell (Fellow).
Chichester Gould May (Member).
Harry George Waters (Licentiate).

C.B. : William Percival Hingston (Licentiate).

C.M.G. : Thomas R. St. Johnston (Licentiate).
C.I.E. : R. McCarrison (Fellow).
Behari Lal Dhingra (Licentiate).
O.B.E. : R. B. Ainsworth (Licentiate).
T. J. Hallinan (Licentiate).
M.V.O. (4th Class) : H. L. Martyn (Licentiate).
F. J. Willans (Licentiate).

Your President has been appointed Physician-in-Ordinary and Dr. E. Farquhar Buzzard Physician-Extraordinary to his Majesty the King.

HARVEIAN CELEBRATION.

In his Harveian Oration "On the Wisdom of the Body," Professor E. H. Starling dealt with the physiology of the heart and of the endocrine glands—subjects to which he has made such important permanent additions to our knowledge. This authoritative oration recalled the last Harveian Oration by a Professor of Physiology—that by a predecessor of his at University College, the late Sir John Burdon Sanderson in 1878. At the usual Dinner in the evening there were present 15 guests and 66 Fellows.

RECEPTIONS.

On the occasion of the Congress of the Société Internationale de Chirurgie, held for the first time in London, the College gave a reception to the members and their wives on 19 July, 1923, from 4 to 6 p.m. About two hundred guests were entertained and had the opportunity of seeing a large number of early works on anatomy and surgery illustrating the history and nomenclature of these subjects, selected by the Harveian Librarian.

On the evening of 3 January, 1924, the College received the members of the Classical Association then meeting in London ; the Harveian Librarian arranged an exhibition of early and rare editions of works dealing with theology, classics, mathematics, medicine, and comparative anatomy ; manuscripts, prints, and old silver were also on view.

There were 114 acceptances (44 being ladies) from the Classical Association and from about 100 Fellows of the College.

LECTURES.

In his Oliver-Sharpey Lectures on 1 and 3 May, 1923, on " The Activity of the Capillary Blood Vessels, and its relation to certain forms of Toxaemia," Dr. H. H. Dale gave a masterly review of the recent advances in a subject he has done so much to advance, and showed the active part taken by the walls of the capillaries in the circulation.

Professor J. B. Leathes was unfortunately prevented by grave illness from delivering the Croonian Lectures for 1923 on " The Rôle of Fats in vital Phenomena," and the College, on the advice of the Censors' Board, decided that these lectures should be published though not read.

The Bradshaw Lecture on " Angina, some points in prognosis," was given on 1 November, 1923, by Dr. John Hay and was based on a careful analysis of a large number of cases.

In the FitzPatrick Lectures delivered on 6 and 8 November, 1923, on " The History of Anatomy," Dr. Charles Singer gave a most interesting and well illustrated description of a subject on which he had thrown so much light.

The first Lloyd Roberts Lecturer was by the request of the two other participating bodies, the Medical Society of London and the Royal Society of Medicine, nominated by this College ; Mr. Edmund Gosse, C.B., LL.D., was accordingly appointed, and on 20 November, 1923, delivered the first lecture in the large Library before an audience of about 150 persons. The lecturer chose for his subject the " Personal Relations between Medicine and Literature," and, after briefly but graphically sketching the outlines of the benefactor's characteristics, proceeded to a charming review of some literary members of our profession up to the time of John Arbuthnot.

The Milroy lectures delivered on 11, 13, 18 March, 1924, by Lieut.-Colonel W. Glen Liston, C.I.E., I.M.S., on " Plague," dealt with its etiology and epidemiology

with an account of his investigations into the part played by rat-fleas in the transmission of the disease.

The Goulstonian lectures were given on 25, 27 March and 1 April, 1924, by Dr. L. G. Parsons on " Some Wasting Disorders of Early Life," and showed evidence of much careful chemical research into the dietetic factors responsible for these metabolic disturbances, as well as careful clinical observations, especially on pylorospasm.

The Lumleian lectures were delivered on 3, 8, 10 April, 1924, by Professor Thomas McCrae, of Philadelphia, who, in describing " The Clinical Features of Foreign Bodies in the Bronchi," shed a wealth of new light on the medical aspects of a subject which has hitherto received rather less than its due attention from general physicians.

MEDALS AND SCHOLARSHIPS.

The *Baly Medal* was awarded to Mr. J. Barcroft, F.R.S.

The *Bisset Hawkins Medal* to Dr. T. M. Legge, C.B.E.

The *Gilbert Blane Medal* to Surg. Lieut.-Commander J. L. Priston, R.N., a Member of the College.

The *Jenks Scholarship* to Mr. George Denison Stilwell.

GIFTS TO THE COLLEGE.

Sir Thomas Barlow made a most generous present of a thousand pounds to the funds of the College.

In addition to many valuable gifts to the Library, including an incunabulum *Artificiosa Memoria* by Petrus de Ravenna, 1491, from Dr. Herbert Spencer, the College has received from Dr. R. W. Innes Smith, a Licentiate, a portrait in oils of Sir Charles Scarburgh, Harvey's friend and successor in the Lumleian lectureship. The portrait had long been in the collection at Temple Newsome, Co. Yorks, and at its dispersal was described in the sale catalogue merely as that of " A Navigator," but Dr. Innes Smith recognized it from the engraving of a portrait of Scarburgh ascribed to Van der Gucht. By the kindness of Sir W. Orpen the College has obtained, at a comparatively small cost, a replica of his fine portrait of the late Dr. David Lloyd Roberts.

PERSONNEL OF THE COLLEGE; REPRESENTATION OF THE COLLEGE ON OTHER BODIES.

At the Quarterly Comitia on 26 April, 1923, a letter was received from Sir Dyce Duckworth, tendering his resignation (to take effect in July) of the office of Treasurer, an office which he had held with distinction and great advantage to the College for 39 years. His resignation was accepted with much regret, and with expressions of gratitude for the work so well and so long performed. It was resolved to appoint Sir Dyce as Emeritus Treasurer and as an additional member of the Finance Committee, and to vote him a sum of three hundred guineas, to be paid during the coming financial year. Dr. Sidney Phillips was appointed Treasurer.

William Fleming, Bedell (1892-1923), an old and faithful servant of the College, died quietly in his sleep on the night of 19-20 June, 1923, after having done his day's work as usual. His service to the College, of which he had a lover's complete knowledge, began more than fifty years ago. Born in 1854, his first connection with our College was as a porter in 1872. Later he became a clerk at the Examination Hall (1887-1892), and in May, 1892, returned as Bedell to succeed Mr. Gurney. He was a self-made scholar, and from his devotion to the College and its great men of old time had imbibed the courteous manners of a bygone age and an unfailing store of historical lore about our ancient Society. At the Quarterly Meeting of the College in July the following Resolution was passed :—

" That the College desires to place on record its deep regret at the death of Mr. William Fleming, and its appreciation of his faithful and valuable services over fifty years, during thirty years of which he held the office of Bedell, to the entire satisfaction of the Fellows and of all those with whom he was brought into contact."

Mr. Horace M. Barlow, who for 16 years has been Assistant Librarian, has been appointed Bedell. His knowledge of the Library, and of books generally, will still be available for the College. Mr. H. G. Eycott has been appointed Assistant Librarian, his duties to include such clerical

work as may be required of him by the College Officers, and his services are already proving valuable to the College.

A. C. Clauson, Esq., C.B.E., K.C., has been appointed Senior Standing Counsel to the College, vice Sir Thomas J. C. Tomlin, K.C., appointed Judge in the High Court of Justice.

Dr. J. A. Nixon was appointed the representative on the Court of the University of Bristol, in the place of Dr. Newton Pitt; Dr. Arthur J. Hall, the Representative Governor of the University of Sheffield, in the place of Sir Humphry Rolleston; and Dr. Edwin Goodall, the Representative on the Advisory Medical Board of the University of Wales, in succession to Sir Hector Mackenzie.

At the Official French Celebrations of the Centenary of the birth of Pasteur at Paris and Strassbourg from 24-30 May, 1923, the College was represented by Dr. H. Morley Fletcher.

The President represented the College at the Celebration of the 800th Anniversary on 5-9 June, 1923, of St. Bartholomew's Hospital and the Priory Church of St. Bartholomew the Great, and presented to the Prince of Wales, President of the Hospital, an address handsomely illustrated by Mr. F. G. Hallett.

Dr. (now Sir) Byrom Bramwell represented the College at the Centenary Celebrations of the Royal (Dick) Veterinary College, Edinburgh, in November, 1923.

FINANCE.

Conjoint Finance for 1923.—While the candidates for the Final Examinations have greatly increased in number, those for the earlier Examinations and for the special Diplomas have fallen off. Nevertheless, the net amount divisible between the two Colleges came to £23,096, an increase of over £6,000 on the previous year (1922). The capitation fee of the Examiners in Medicine has been raised from £3 15s. to £4 15s.

College Finance—Dr. Sidney Phillips, since his appointment as Treasurer, has been engaged in readjusting the monetary arrangements of the various Trust funds. The new scheme for the Sadlier Trust (Croonian Lectures) has received the final approval of the College and of the

Charity Commission ; the most important point is that the scheme enables any future surplus of this Trust to be expended in augmentation of the income of other lectureships. The payment for some of the lectures, notably the Goulstonian, has hitherto been made up by the College, but this can now be rectified.

One of the rent-charges under the Lumleian Trust, that on property in Repton, has been commuted and the proceeds invested. The vexed question of the Anslow rent-charge under the same Trust is still unsettled.

There are two subjects which may bear on the finance of the future :—

1. The College has expressed its willingness to take a share in the restoration of the tower of the church at Hempstead, in Essex, which contains the tomb of William Harvey. A Committee is being formed to collect a fund for the restoration of the tower, on which many influential Essex residents, headed by the Bishop of Chelmsford and the Bishop of Colchester, have consented to serve. Representatives of the College and of other medical bodies will also be included.

2. The question of increasing the accommodation within the College was considered last year, and plans and estimates for this object were obtained from Sir Aston Webb, P.R.A. A committee was appointed at the Quarterly Comitia in July to consider this question. But the outlook was soon altered by the fact that the Canadian Government, after purchasing the lease of our neighbours, the Union Club, applied to the College, through Sir Howard Frank, of the firm of Messrs. Knight, Frank & Rutley, to ascertain if they could also acquire the site and buildings of our College. The question was carefully considered by the Committee and on their recommendation the Comitia of 26 March, 1924, passed a resolution declining to accede to the proposals.

COMMITTEE OF MANAGEMENT.

Examinations for the Licence and Conjoint Special Diplomas.—The number of candidates for the Final Examinations continues to increase. The normal number of Examiners in Medicine is ten, working in five pairs, of

whom one pair used, in past years, to "stand out" at each quarterly Examination, the remaining four pairs being enough to carry out the Examination. Now, however, all five pairs have to be at work. Even so, the Examinations have not always been completed by the date of the Quarterly Comitia, so that the President has from time to time been empowered to sign and seal the Diplomas of such candidates as complete their Examinations after that date. The Secretary, Mr. F. G. Hallett, considers that it may be necessary during the next two or three Examinations to ask for another (sixth) pair of Examiners, but that after that time the number of candidates will decline.

On the advice of the Committee, the Colleges have resolved to grant a Conjoint Diploma in the subject of Throat, Nose, and Ear Disease, to be called the Diploma in Laryngology and Otology (D.L.O.). Regulations have been drawn up, and one examination has been held.

A revised Syllabus of subjects included in the Materia Medica and Pharmacology Examination has been issued.

The new Regulations concerning the curriculum and Examinations for the Licence have now been embodied in our Bye-Laws. This is the only alteration in the Bye-Laws made since the last Presidential Address.

As to the new Rules for the Diploma of Public Health, made by the General Medical Council, certain modifications (as mentioned in the last Presidential Address) were strongly urged by the Colleges, in the interest of those practising abroad or attached to the Forces. It is much to be regretted that the Council has not adopted them.

It is hoped that the difficulties concerning the recognition of the Welsh National School of Medicine (mentioned in the same Address) are now on the way to settlement. Improvements in the requirements for the teaching of Medicine have been undertaken; recognition of the School has been extended till October, 1924; and, subject to certain conditions, recognition may then become permanent.

The Examiners in Medicine sent to the Committee a letter, which was forwarded to the College, stating that many candidates were deplorably ignorant of the physical signs of disease. Several causes were suggested for this deficiency when the subject was discussed at the College. The letter was then referred to the Deans of the Medical Schools for their opinion, but so far a few only have replied.

Mr. H. J. Waring visited the Cairo School of Medicine at the end of 1922, and presented a valuable Report to the Committee. The College passed a vote of thanks to him for his services. In connection with this Report the Committee (1) obtained leave from the College to make certain suggestions to the Egyptian Minister of Education, (2) urged the College to insist that English should be used in all courses and Examinations, and not Arabic only.

CENSORS' BOARD.

Membership Examinations. — The numbers were as follows :—

	Admitted.	Withdrew before the Exam.	Referred.	Approved and admitted as Members.
1923.				
April ..	28	1	13	14
July ..	27	1	9	17
October	16	1	8	7
1924.				
January	23	—	9	14
	94	3	39	52 or 55·3 per cent

Removal or Restoration of Diplomas.—No cases were reported to the Board of such a nature as to render the withdrawal of a Diploma necessary, or calling for any kind of disciplinary measures. Two Diplomas of Licence, previously withdrawn by the College, have been restored

at the advice of the Censors' Board. The Membership has been restored to seven practitioners, who had previously resigned it in consequence of their having entered into partnership, or having taken a dispensing practice.

Some questions of importance have been discussed at the Board, which may come before the College later.

THE LIBRARY.

The repair of the books has been continued throughout the year. Special attention may be directed to the completion of the " Catalogue of the Legal Documents " in the possession of the College ; of the three copies made one has been accepted by the British Museum. A new and complete catalogue of the engraved portraits in the possession of the College is in process of formation and will soon be ready. As the College Library has never had a bookplate, steps are being taken to provide one worthy of its contents. During the year facilities have again been given to several Societies to inspect the Library and its contents. On these occasions an account of the history of the College and its Library has been given, and the various objects of interest have been shown and described by the Harveian Librarian.

Obituary Notices.*

During this Presidential year there have been 12, or 3 per cent., deaths among the Fellows. The average age of the deceased Fellows was 70 years. The oldest, Dr. P. W. Latham (91), and the youngest, Dr. P. W. Saunders (46), died within three days of each other. The year was noticeable for the death of a father and son.

Name.	*Date of Death.*	*Age.*
	1923.	
Arthur Carlyle Latham	13 April ..	55
Sir James Reid	28 June ..	73
George Edward Rennie	10 August ..	62
Peter Wallwork Latham ..	29 October ..	91
Percy Whittington Saunders ..	1 November ..	46
David White Finlay	4 November ..	83
Thomas Henry Green	5 November ..	81
Lauriston Elgie Shaw	25 December ..	64
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ARTHUR CARLYLE LATHAM.

Arthur Carlyle Latham, who died on Friday, 13 April, 1923, after nine months' illness, was born on 1 December, 1867, at Cambridge, and was the last surviving son of our late senior Fellow, P. W. Latham, and Jemima McDiamid of Dumfries; he thus inherited Lancastrian persistence and Scottish sturdiness. Educated at Fettes College and for a year, 1886, at the University of Edinburgh, he proceeded in 1887 to Balliol College, Oxford, where he obtained a first class in the Natural Science Final Schools in 1892, and gained a Radcliffe Travelling Fellowship (1895). He was also a member of King's College, Cambridge (incorporated B.A. 1890), and thus had experience

* Dr. Hugh Walsham died on 13 April, but notification was received too late for the inclusion of his obituary. This will appear in the next Presidential Address.

of two most scholarly Colleges of the older Universities. At St. George's Hospital he was elected assistant physician in 1898, became full physician in 1905, and was active as Dean of the Medical School (1902-4). He was also for a time (1897-1900) assistant physician to the Victoria Hospital for Children, and acted as advisory physician to the Hospital for Diseases of the Throat, Golden Square, and to the Lying-in Hospital, York Road. Comparatively early in his professional career he directed his energies to the study of tuberculosis ; in May, 1899, he gained one of the Research scholarships of the Grocers' Company and investigated "The commencement of tuberculosis in children, with special reference to the localities of the body primarily invaded by the disease and the sequence in which the various organs are attacked." In 1900 he was appointed assistant physician to the Brompton Hospital for Consumption and Diseases of the Chest, and after he resigned this post in 1909 was elected physician to the Mount Vernon Hospital for Tuberculosis and Diseases of the Lungs and Heart (1910-1913). In 1902, in association with A. William West, architect, he gained the first prize (£500) for an essay on the erection of the King Edward VIIth Sanatorium for Tuberculosis at Midhurst, for which 180 essays were sent in ; this essay was published by Baillière, Tindall and Cox in the following year and so came out at the same time as his book on *The Early Diagnosis and Modern Treatment of Consumption*, which passed into a fourth edition. He also wrote a *Dictionary of Medical Treatment* (1908), which is in its second edition, a work on *Medical Diagnosis* (1915, with J. A. Torrens), was joint editor of a *System of Treatment* in four volumes (1912, with Sir Crisp English), and, shortly after he was Radcliffe Travelling Fellow, translated, with his father, Binz's *Lectures on Pharmacology* (New Sydenham Society) and von Limbeck's *Pathology of the Blood.*

Apart from purely professional work, Arthur Latham's name will remain as one of those largely responsible for the successful amalgamation of various medical societies into the Royal Society of Medicine. This scheme, originated in 1893 by Mr. (now Sir John) MacAlister, was approved by Sir Andrew Clark, then President both of this College and of the Royal Medical

and Chirurgical Society, but his death on the day convened for the discussion of the project put a stop to any progress, and it was not until 1905 that the matter was brought up again by Sir Richard Douglas Powell, President, and Sir John MacAlister, Secretary, of the premier Medical Society. At a meeting held in the College on 10 April, 1905, with the President, Sir William Church, in the chair, an organising committee, with Latham and his surgical colleague and friend, H. S. Pendlebury, as Honorary Secretaries, was appointed. The necessary negotiations with the various medical societies extended over two years and demanded an enormous expenditure of time, patience, and conciliatory tact to overcome the difficulties of the numerous and complicated problems. But on 14 June, 1907, the final seal of success was put on the scheme by a supplementary Charter from the Crown, and for the next five years Latham remained as Honorary Secretary of the Royal Society of Medicine. Possessed of a logical and able brain, remarkable organising powers and initiative, Latham took an active part in many movements, and was a hard though rapid worker. A clear, courageous and convincing speaker, with a vein of caustic criticism at his command, he would undoubtedly have been as successful at the bar as he was in our profession. One of his oldest friends writes, "A man of force and of originality of outlook, he will be overvalued by some and greatly undervalued by others." Unfortunately, he was much handicapped throughout his professional life, and especially in recent years, by ill health. He became a Member in 1898 and a Fellow of the College in 1904.

JAMES REID.

The death of Sir James Reid on 28 June, 1923, after an illness of five weeks, removed a sterling character, whose position as the personal attendant of Queen Victoria was unique, at any rate in modern times, both from his office and what he made of it; he was, indeed, an eminent Victorian.

Born on 23 October, 1849, he was the eldest son of James Reid (1819-1883), of Ellon, Aberdeenshire, one

of the Reids of Muirton, and of Beatrice Peter, of Canterland, a descendant of the Scottish Barclay family of which John Barclay (1582-1621), the satirist author of " Argenis " and " Satyricon," in the style of Petronius, was a member. Reid, who owed something to his mother's heredity and certainly much to her influence, had a distinguished career as a student, for he was Dux and Gold Medallist at the Aberdeen Grammar School in 1865, and at the University of Aberdeen graduated M.A. with honours and a gold medal in 1869, M.B., C.M. with highest honours in 1872, and M.D. three years later. After graduation, he started practice in London in Upper Westbourne Terrace, but abandoned this in 1875, and, after spending two years in post-graduate study in Vienna, joined his father in practice at Ellon in 1877. On the death of Dr. William Marshall in 1881, he became, at the age of thirty-two, resident physician to the late Queen Victoria, and in the following twenty years " acquired probably to a greater degree than any of her subjects a personal knowledge of her Majesty." He became physician extraordinary in 1887, physician-in-ordinary and C.B. in 1889, K.C.B. in 1895, a Baronet on the occasion of the Diamond Jubilee in 1887, and a G.C.V.O. in 1901, after Queen Victoria's death. He was physician-in-ordinary to King Edward VII and King George V, and received many foreign orders when visiting the Courts of Europe with King Edward. The Supplement to *The London Gazette* of 19 June, 1911, contained among the Coronation Honours—" The King has been pleased by Warrant under His Majesty's Royal Sign Manual, bearing date the 14th instant, to give and grant unto Sir James Reid, Baronet, G.C.V.O., K.C.B., one of His Majesty's Physicians-in-Ordinary, Physician-in-Ordinary to His late Majesty King Edward the Seventh and to Her late Majesty Queen Victoria, in consideration of services rendered to His Majesty's dearly beloved father, Royal Licence and Authority, that he, the said Sir James Reid, and his descendants, may bear to his and their Armorial Ensigns the Honourable Augmentation following, that is to say : On a chief Gules a Lion passant guardant Or armed and langued Azure (being one of the Lions from the Royal Arms) : Provided the said Honourable Augmentation be first duly exemplified according to the Laws of Arms and recorded in the College of Arms."

After the death of Queen Victoria, Reid settled in London in the house, 72, Grosvenor Street, previously occupied successively by Sir Samuel Wilks and Sir James Ranald Martin. Thus, entering medical life in London at the age of fifty-two, the became known rather to the senior Fellows than to the College as a whole, for, though a very clubbable man, as Dr. Samuel Johnson said of James Boswell, his essentially modest nature did not make him a constant attendant at the ordinary meetings of medical societies. He became a Member in 1887, a Fellow in 1892, and served on the Council of the College (1910-12) and the Finance Committee (1912-15). The Universities of Glasgow and Aberdeen conferred on him the Honorary LL.D., the Royal University of Ireland made him an Honorary M.D., and the Royal College of Physicians of Ireland elected him an Honorary Fellow.

Reid was a most kindly man, but this did not prevent one with his straightforward and independent character from fearlessly expressing his opinions when necessity called him to denounce what he thought wrong. The soul of honour, he had a contempt for intrigue and self seeking, and inspired not only sincere respect but affection in those that had the privilege of knowing this honest and honourable man.

GEORGE EDWARD RENNIE.

George Edward Rennie's death on 10 August, 1923, in his native city, Sydney, deprived Australia of a scholarly, public spirited and unostentatious consulting physician.

He was born in Sydney on 10 September, 1861, of a distinguished family, for his father, Edward A. Rennie, was Auditor-General of New South Wales, and an elder brother, Edward Henry, has since 1885 been Professor of Chemistry in the University of Adelaide. A brilliant schoolboy and winner of many prizes and scholarships at the University of Sydney, he took his degree in Arts in 1882 with first-class honours in Greek and Latin and in Natural Science. In that year he came to London and entered the Medical School of University College Hospital, where his career ran on the same lines until in 1888 he obtained the Gold Medal in the M.D. London, the first time that this honour had been carried off by an

Australian. In 1889 he returned to Sydney, and after serving as assistant pathologist was appointed assistant physician to the Royal Prince Alfred Hospital, becoming full physician in 1898 ; he thus became actively engaged in hospital and private practice and was specially interested in neurology. He then visited London again, worked at the National Hospital for the Paralysed and Epileptic, Queen Square, and in 1899 was admitted to our Membership, being elected a Fellow in 1907. On his return to Sydney he again served as assistant physician for six years at the Royal Prince Alfred Hospital, becoming full physician in 1906, senior physician six years later, and retiring in 1921 on attaining the age limit of sixty years, when he was elected consulting physician. Combining the mental attitude of the physician with the experience of a pathologist and a physiologist, he was an inspiring teacher, and for some years lectured on Medicine in the University of Sydney. His wide interest in nervous disorders was shown by his fourteen years of admirable work as visiting physician to a mental hospital where the inmates were not certified and therefore could not be detained against their will. Although much occupied in other ways, he edited the *Australian Medical Gazette* from 1901 to 1914, and played an active part in the Medical Societies to the last ; he was to have given an address in July, 1923, on glycosuria and diabetes, but was struck down before the meeting with the cerebral thrombosis from which he eventually died. His later years were saddened by the loss of two sons in the Great War. A man of high ideals and unselfish and retiring character, he was a fine example to the Dominions of a Fellow of this College.

PETER WALLWORK LATHAM.

The Senior Fellow of the College, Peter Wallwork Latham, followed his son, Arthur Latham, into the valley of the shadow on 29 October, 1923, a little more than a week after his ninety-first birthday.

He was born on 21 October, 1832, at Wigan as the eldest son of John Latham, a medical man in that town, but was not related to the famous physicians, John and Peter Mere Latham. After serving as apprentice to his father,

he continued his medical education at Glasgow, and in 1854 passed to Caius College, Cambridge, where he gained a scholarship in the following year; in 1858 he went out as nineteenth Wrangler in the mathematical tripos, and in 1859 was placed first in the first class of the natural sciences tripos with distinction in no less than five subjects—chemistry, physiology, physics, comparative anatomy, and botany—a record that has never been equalled. His only companion in the first class was the Rev. George Henslowe, formerly lecturer on botany at St. Bartholomew's Hospital (1866-1890), who is still living. After working at St. Bartholomew's Hospital, London, he was in 1860 elected a Fellow of Downing College, Cambridge, and in April, 1862, the year of his first marriage, assistant physician to the Westminster Hospital. This post, however, he resigned in June, 1863, on being appointed physician to Addenbrooke's Hospital and medical lecturer at Downing. In the following year he proceeded to the M.D. with a thesis *On the early symptoms of phthisis and the means best adapted to prevent or arrest its development*, which was published in booklet form. He devoted much time and ability to drafting new statutes for the College founded by Sir George Downing, and thus helped to raise it from the state of deep depression into which it had sunk. From 1868 he acted as deputy for W. W. Fisher, the Downing Professor of Medicine, then in his seventieth year, until in 1874 he was elected as his successor. This chair he held, as he had declared he would do, for twenty years and no longer, but he remained physician to Addenbrooke's Hospital until 1899, and did not leave Cambridge until 1912; he then settled in London, where, though handicapped by increasing deafness, he enjoyed seeing his friends until sorely stricken by the grave illness and the death of his surviving son, Arthur, our late Fellow; he then moved, in May, 1923, to Clifton, Bristol, into a flat next door to the house in which his second wife spent her childhood. One of our Fellows in Clifton who looked after his closing days urged him to write his reminiscences of medical education, but he could not bring his mind away from his son's death, which really killed him. Latham lived in Cambridge for sixty years and so saw the rise of the Medical School under the stimulating influence

of Sir George Humphry and Sir Michael Foster, but, looking at medicine from rather a different angle and with equally firm opinions, he did not walk hand in hand with these pioneers. Fearless in debate, he seemed rather to enjoy than to avoid the clash of intellectual contest. As a sound general physician, he had an extensive practice for many years, and his genial personality inspired confidence. At one time he was much attracted by the chemical theories in medicine, somewhat recalling Bence Jones in an earlier period; this was shown in his Croonian lectures (1886) *On some points in the pathology of rheumatism, gout and diabetes*, which contained some elaborate formulæ and were considered to have impressed the College authorities in no small degree; two years later he gave the Harveian Oration on micro-organisms and blood infections. Previously he had published two lectures, illustrated by Airy's spectra, on *Nervous or Sick-headache* (1873), and contributed the article on this subject to Quain's *Dictionary of Medicine*. No large work came from his active brain, but he wrote in the medical journals on various subjects, such as the pathology and treatment of typhoid fever (with Arthur Latham, 1893) and the treatment of rheumatoid arthritis by continuous counter-irritation of the spine by blisters (1905), and, together with his son, brought out the English translation of Carl Binz's *Lectures on Pharmacology* in the New Sydenham Society (1895-1897).

In the College he held more offices than any country Fellow has ever done, for not only was he Councillor (1886) and Censor (1887-1888), but Senior Censor (1894), a striking proof of the opinion of his contemporaries.

PERCY WHITTINGTON SAUNDERS.

The College lost by the premature death on 1 November, 1923, one of its recent Fellows, Percy Whittington Saunders, from a rare form of sarcoma of the lymphatic glands, after some years of ill-health, which for the last six months had laid him completely aside. Overwork during the War, the loss of a combatant brother at the front, and influenza had undermined his powers of resistance. He was the eldest of the three sons of Edward Saunders, the manager of the Canadian Landed and National

Investment Company, and was born at Toronto on 31 May, 1877, where he took the B.A. in 1898 and M.B. (Gold Medal) in 1902. Coming to this country as a lonely stranger, he first worked at the London Hospital, and after taking the Conjoint Board Diploma in 1905 and holding resident appointments at the East London Hospital for Sick Children, Shadwell, and at the City of London Hospital for Diseases of the Chest, was house physician, resident medical officer, registrar, and finally assistant physician at the National Hospital, Queen Square. In 1913 he was elected assistant physician to the Royal Free Hospital and lecturer on medical pathology in the London School of Medicine for Women, becoming full physician in 1922; in the meanwhile he had taken our Membership in 1909 and had been elected a Fellow in 1917. A most conscientious and extremely hard worker, he was an admirable teacher, no trouble being too great if he could thereby help his pupils. Though far from a copious writer, he had established a reputation by articles in *Brain*, the *Oxford System of Medicine* (Christian and Mackenzie), the *Encyclopædia Medica*, and elsewhere. Outside his professional work he had wide interests in literature and a genuine love for classical learning. Of a retiring disposition, he was not widely known, but those thus privileged regret the loss of a high-minded and unselfish friend.

DAVID WHITE FINLAY.

David White Finlay, who died on 4 November, 1923, was born in Glasgow on 1 September, 1840, as the son of a merchant, James Finlay; his family was not connected with that of the ex-Lord Chancellor, Lord Finlay of Nairn, who forsook medicine for law. Educated at the High School and University of his native city, Finlay graduated B.A. in 1860 and M.D., C.M. (with commendation) four years later, and then travelled abroad for his health, visiting South America and devoting much time to yachting. He appears to have abandoned medicine for some years; at any rate, it was only in 1872 that, after a post-graduate course at Vienna, he came to London and obtained a resident post at the Stone (now St. Peter's) Hospital. Early in 1874 he became resident physician's

assistant for one and a half years at the Middlesex Hospital, where, being some ten years older than his colleagues, he was affectionately known as "the Skipper." After this he was in due course medical registrar (1876-79), assistant physician (1879-1884), and physician (1884-1891); in the Medical School he lectured on forensic medicine (1881-1891) and practical medicine (1884-1891), and in connection with the first of these posts took the D.P.H., Cambridge, in 1883. He was also physician (1876-1891) and consulting physician to the Royal Chest Hospital, City Road, which in 1921 was amalgamated with the Royal Northern Hospital and a Scottish institution for the sick poor. He became a Member in 1876, a Fellow in 1885, and served on the Council of the College (1908-1910).

In 1891, after a keen contest, he was appointed Regius Professor of the Practice of Medicine in the University of Aberdeen to succeed Professor J. W. F. Smith-Shand, and became physician to the Aberdeen Infirmary. In 1907 he succeeded Professor R. Reid as Dean of the Faculty of Medicine, and for the ten years, 1901-1911, represented the University on the General Medical Council, for which he had acted as Inspector of Examinations (1887-1890). In 1908 His late Majesty Edward VII made him one of his honorary physicians in Scotland, and this distinction was continued in 1911 by King George V. In 1900 he attended the bicentenary celebrations at Yale, and was made an honorary LL.D. On his retirement in 1912 he became Emeritus Professor and subsequently received the Hon. LL.D of Aberdeen. The remainder of his life was spent at Helensburgh on the Clyde, in the neighbourhood of his birth-place, with its opportunities for his favourite recreations of photography and yachting; some of his experiences before this time are to be found in his *Reminiscences of Yacht-racing and some Racing Yachts* (1910). But with the onset of the War he returned to work and was Commandant, as temporary Lieut.-Colonel R.A.M.C., of the Scottish National Red Cross Hospital at Bellahouston, and was Examiner in Medicine at the University of Glasgow (1913-17 and June, 1919).

With a high reputation as a physician and a teacher of physicians he set a fine example of accurate observation,

attention to detail, and conscientious punctuality. Quiet and reserved, but not without flashes of Scottish humour, he employed the Socratic method in teaching his students, in whom he always took a keen interest. He contributed a number of articles, especially on thoracic disease, such as pneumothorax, but no book to medical literature. With a broad-minded interest in human welfare he was a strong advocate of temperance, without being a prohibitionist, and originated the Hogmanay Café in Aberdeen as a Christmas rival to the public houses and whiskey.

THOMAS HENRY GREEN.

On 5 November, 1923, Thomas Henry Green died at the Moorings, St. Albans, where he had lived in retirement since the autumn of 1910. He was born on 21 October, 1842, at Saffron Walden, and was the son of Thomas Day Green of that town, a member of the Society of Friends. After education at a school belonging to that denomination he entered University College Hospital, becoming M.R.C.S. in 1864, M.B. with first class honours in medicine in 1865, and M.D. London in 1866. After holding various resident posts at his own hospital and that of medical registrar at the Great Ormond Street Hospital for Sick Children, he was in 1868 elected assistant physician to Charing Cross Hospital, which he loyally served as an active member of the staff for 35 years, being physician for no less than 28 years (1874-1902). At the Brompton Hospital for Consumption and Diseases of the Chest he was assistant physician (1875) and physician (1888-1903), being elected to the junior post on the same day as his colleague at Charing Cross, Dr. J. Mitchell Bruce. Modelled on his own chief, Sir William Jenner, he was one of the best clinical teachers in London—clear, concise, dogmatic and practical; his memory is, therefore, held in grateful remembrance by many generations of his students who, it is said, found it quite unnecessary to read text-books provided they followed him in the wards. In spite of this he was mainly known outside his hospital, like a former President of this College, Sir Samuel Wilks, for his text-book on pathology. When he joined Charing

Cross Hospital he was fresh from Virchow's teaching and most appropriately lectured on that subject for twenty years. "Green's Pathology" first appeared in 1871 as a volume of 304 pages and he continued to edit it as long as he held the lectureship, then entrusting it to his successors and colleagues, the last and thirteenth edition in its forty-third year in 1923 being much expanded in the size of the page, more than double the number and with almost exactly four times the number of illustrations; it was twice—in 1876 and 1886—translated into Japanese. As not very rarely happens, a prolonged apprenticeship to pathology, while providing the most invaluable basis for accurate diagnosis, appeared by some perversity of reasoning to detract from Green's attractiveness in popular esteem as a consulting physician. Apart from his standard text-book he was not a prolific writer; in 1876 his lectures at the Brompton Hospital *On the Pathology of Pulmonary Consumption* were published in book form, and dealt with the then much debated nature of tubercle. In the life of London Medical Societies he took a full share, being Secretary (1875-6) and Vice-President (1886-8) of the old Pathological Society of London, on the Council of and contributor of four papers to the Clinical Society, on the Council (1886), referee for papers (1882-1906) and Vice-President (1906) of the Royal Medico-Chirurgical Society, and one of the first Vice-Presidents of the Medical Section of the Royal Society of Medicine (1907). At our College he became a Member in 1867, a Fellow in 1874, and was Censor (1900-1), Senior Censor (1904), Councillor, and for eight years an Examiner.

Green was thus a fine representative of the best type of contemporary hospital physician, but his retiring temperament with a reserved, rather distant and formal manner, possibly the outcome of his Quaker upbringing, though in early manhood he joined the Church of England, prevented him from ever being much in evidence, and he was not one of the "three G.s" (Greenfield, Gowers, and Goodhart), all distinguished Fellows of this College, who were prominent figures in Medical Societies some forty-five years ago. With high ideals, he was content to do the day's work without any aim further than to have maintained his own self-respect.

LAURISTON ELGIE SHAW.

After a long and intermittently successful struggle, extending over more than forty years, against pulmonary tuberculosis, Lauriston Elgie Shaw passed behind the veil on Christmas Day, 1923, at Weybridge, where he had lived for the last three years. He was born in London on 31 March, 1859, of a medical family, for his father, Archibald Shaw, practised in St. Leonards and his brother, Mr. C. T. Knox-Shaw, was Ophthalmic Surgeon to the London Homœopathic Hospital.

After early education at the City of London School and at University College, he entered the Medical School of Guy's Hospital on 1 October, 1877, qualifying in 1881 M.R.C.S., and taking the M.B. (1882) and M.D. (1883) of London University. An attack of hæmoptysis then made him take the post of ship's surgeon on a sailing vessel to Australia ; on his return to London he took the Membership of our College in 1885 and began to climb the ladder of the medical staff of his old hospital, being successively demonstrator of biology (1885), medical registrar (1887), assistant physician in 1889, when he was appointed demonstrator of morbid anatomy and curator of the museum, Dean of the Medical and Dental Schools (1893-1901), physician (1907), and consulting physician (1919).

Although a sound clinician and popular teacher, Shaw's career and tastes were rather different from those of the ordinary hospital physician ; his energies were not so much confined to the science and practice of medicine as extended to those broader and less detailed aspects often dismissed, by those who have no taste in that direction, as medical politics, and to the organisation of schemes for improving the national health. His high ideals and unselfish disposition led him into activities attended by discussions on lines often more electric than philosophic ; but however much his opponents might disagree with his views, his disinterestedness, moral courage and anxiety to further the public good were always recognised and respected. There was, indeed, a contrast between the affection his personality attracted and the criticism that his opinions, always put forward persuasively, with good temper, and usually with humour, might excite. As his colleague, Dr. J. Fawcett, wrote, " To know him was to love him ; to be his friend was a

great privilege." For a time he was a prominent figure at the British Medical Association, being President of the Metropolitan Counties Branch in 1911 and Chairman of the Central Ethical Committee. But his active part in framing the National Health Insurance Act on "the guiding principles of his medico-legal life" and in furthering its aims raised such antagonism among the rank and file of the profession that for a time he felt that nearly every avenue of activity was closed to him. His services as Treasurer of the London Panel Committee from its start were recognised by a presentation to him in 1922 when his desire to resign for reasons of health was overruled. In 1916 he became manager of the Metropolitan Asylums Board and was chairman of the Pinewood Sanatorium Sub-committee. Shaw was elected a Fellow in 1892, was an examiner in Medicine (1911-14) and on the Council in 1922.

THOMAS WILLIAM THURSFIELD.

By the death, after an operation, of Thomas William Thursfield on 14 January, 1924, Leamington lost a most public-spirited Freeman, a former Mayor (1894-97), and for forty-two years the Chairman of its Public Library and Museum Committee. Born at Kidderminster on 23 September, 1839, he came of a medical family and followed in the professional footsteps of his father, Thomas Thursfield, his paternal grandfather, and great-grandfather. His younger brother, Sir James, who died a year earlier, was Fellow, Aristotelian lecturer, and honorary Fellow of Jesus College, Oxford, and for many years was one of the band of Oxford leader-writers on *The Times*, being more specially know as its naval critic.

After education at the ancient Grammar School of his native town, Thursfield proceeded through Lancing and King's College, London, to the University of Aberdeen in 1856, where he passed the examination for the M.D. degree before his twenty-first birthday; having therefore to wait until 25 September, 1860, for his diploma, he became the first graduate in any faculty of the new University of Aberdeen, which had been constituted on 8 September previously by the incorporation of King's and Marischal Colleges into one University and College. His name will be kept in recollection at his University

by his bequest of £450 to endow a Gold Medal (or other award) for the best thesis for the M.D. degree. Shortly after entering the University in 1856 he lost his father, and accordingly had the stimulus of a lean purse, which in later years he praised as an advantage. After working in London and Paris, and after travelling abroad for some years, in several instances with patients, he settled down in 1865 to general practice, first for a year in Kidderminster and then in Leamington. About 1880 he gave up general practice, and in 1882 was elected honorary physician to the Warneford Hospital, becoming Consulting Physician twenty-nine years later. For the hospital he raised some £16,000, and his services in this and in his professional capacity were rightly recognised by a presentation portrait ; it was said of him that " no work in his life was so near his heart as the Warneford Hospital." In addition, he founded in 1869 the Provident Dispensary and was its trustee until 1911, when ill-health overtook him.

Though a successful consultant, Dr. Thursfield contributed very little to medical literature, partly because what spare time he had was much occupied by his conspicuous services to the medical charities and municipality of Leamington, for he was a prominent promoter of every branch of the public weal. Cultured in many directions, fond of travel, eloquent and impressive as a speaker, he was well-read and gave local addresses of historical and biographical interest ; though without any claims to be a Scotsman, save his Aberdeen degree and the Membership of the Royal College of Physicians of Edinburgh taken in 1880, he had the unique distinction, which he valued highly, of being President of the local Burns Club. A keen politician, he belonged to the Liberal and subsequently to the Liberal-Unionist party, and in his early days was known as " the Radical Doctor," thus recalling his friend and neighbour, " the Radical Parson," the Rev. William Tuckwell, sometime Vicar of Stockton, Warwickshire, and brother of a former distinguished Fellow of this College well-known to the older generation of Oxford medical graduates. Thursfield became a Member of our College in 1881 and a Fellow in 1890, and was a worthy exponent in the provinces of the best traditions of an all-round physician.

DONALD WILLIAM CHARLES HOOD.

Donald William Charles Hood, who died on 15 March, 1924, from the effects of influenza, was the eldest son of the late Sir William Charles Hood, M.D., F.R.C.P., Lord Chancellor's Visitor in Lunacy, and was born at Market Lavington, Wilts, on 23 June, 1847. After passing through Harrow and Caius College, Cambridge, he entered the Medical School of Guy's Hospital in May, 1865, and qualified in July, 1869, at the Royal College of Surgeons, taking the M.B. Cambridge in 1871. He proceeded to the M.D. degree in 1879, in which year he became a Member of this College and began his long and active association with the West London Hospital as assistant physician, becoming physician in 1883, consulting physician on his retirement in 1909, and Vice-President in 1910. He was elected a Fellow of this College in 1892, and served on the Council (1910-12) and on the Finance Committee (1913-15).

During the ten years after qualification he practised for a time in the country, and, indeed, throughout life retained the pleasant air of a country squire and a keen sportsman, so that until the last year or so, when he had a very severe illness, his looks were much younger than his years. His interests were wide, for besides devoting much time to the successful post-graduate school at the West London Hospital, of which he was one of the founders, and to the West London Medico-Chirurgical Society, of which he was President in 1893-4, he was consulting physician and on the Board of Management of the Earlswood Royal Institution, Governor and on the Board of Management of Bethlem and Bridewell Hospitals, of which his father had been treasurer, examining physician to the Foreign Office, and a Manager of the Royal Institution. He received the C.V.O. in 1891 in recognition of his services in London to wounded and sick officers returning from the South African War.

A shrewd, sound and successful physician and a good clinical observer, he was a popular teacher of post-graduates. He wrote comparatively little, but what he did was based on practical experience, such as his contributions on pneumonia. Although not attached to an undergraduate teaching school, his attainments were recognised by his appointment as an examiner in Medicine at his own University.

WILLIAM ALFRED WILLS.

The death on 2 April of William Alfred Wills, at his home, Rotherhill, near Midhurst, occurred after some months of disability and a longer period of impaired health, against which he had courageously fought and meanwhile continued to do most useful public work in the district around Midhurst, where he had lived since his retirement from London in 1905. During these seventeen years he cheerfully and unostentatiously devoted himself to the public weal ; as a Justice of the Peace, a County Councillor for West Sussex, Secretary of the Emergency Committee for the Midhurst District during the War, as visitor to Asylums, and in many other ways he earned the respect and affection of the countryside.

Born in October, 1862, he was the eldest child of the second family of the late Hon. Mr. Justice Wills ; his mother was Bertha, the daughter of T. L. Taylor. Educated at Fettes and University College, London, he was at first anxious to become an engineer, but, acting on his father's advice, he decided in favour of medicine, and about 1880 entered the school of Westminster Hospital, with which he remained connected during his professional life. Qualifying at the College of Surgeons in 1884, he took the M.B. (1885) and M.D. (1890) London, the Membership in 1891, and was elected a Fellow of the College in 1902. After serving as medical registrar of Westminster Hospital (1888-1893), he was elected assistant physician in June, 1893, and lectured on forensic medicine in the School until May, 1905, when ill-health obliged him to retire just before he would have succeeded to the post of physician to the Hospital. In the meanwhile he was on the staff of the North Eastern Hospital for Children and was elected consulting physician on his retirement.

During his comparatively short professional life Wills made a number of contributions to medical literature, especially to the *Westminster Hospital Reports*, such as " On the Application to Medical Uses of the Electric Lighting Current " (1893, viii, 49), " Some Suggestions on the Influence of Sex in the Production of Anæmia " (1897, x, 45), and " Infant Feeding " (1899, xi, 59). In collaboration with his brother-in-law, Sir Wilmot Herringham, he published a valuable experimental research on " The Elasticity of the Aorta, a contribution to the study

of Arterial Sclerosis" (*Med.-Chir. Trans.*, 1904, lxxxvii, 489-527), a subject for which his knowledge of physical problems specially fitted him. He also contributed the article on "Diseases of the Mouth" to the first edition of Sir Clifford Allbutt's *System of Medicine* (1897).

Wills was a man of many interests; in addition to his country occupations, he was, like his father, who was one of the founders and the third President of the Alpine Club (1864), a keen climber, being Secretary of the Alpine Club (1897-1900) and on its Council (1895). The family châlet, "The Eagle's Nest," high above Sixt, in Savoie, was familiar to many of his friends as a happy holiday home. With this special knowledge he was appropriately chosen to write on "Mountain Sickness" in Quain's *Dictionary of Medicine* (1901).

ALEXANDER HAIG.

Alexander Haig, the only son of George Andrew Haig of Maulesden, Brechin, and with his cousin, Earl Haig, in the 24th generation of the Haigs of Bemersyde, was born at Blairhill, Rumbling Bridge, Perthshire, on 19 January, 1853, as a seven months infant; that poor health persisted from childhood into adult life was obvious from his appearance. After being at Glenalmond and Harrow, he went up in 1872 to Exeter College, Oxford, where in 1876 he was placed in the second class of the Natural Science School, taking physiology as his subject, and might well have got a first had he not been severely handicapped by inability to use his eyes for reading for six weeks before the examination. Entering the Medical School of St. Bartholomew's Hospital in the same year, he qualified M.R.C.S. in 1879, and became B.M. (1880) and D.M. (1888) Oxford, a Member (1883) and a Fellow of this College (1890). At St. Bartholomew's Hospital he held the post of casualty physician (1884-86) and became one of some twenty men then waiting in the hope of getting a permanent footing on the medical side of the Hospital. This prize was denied him, but in 1883 he became assistant physician to the Metropolitan Hospital, which was then almost entirely staffed by men educated at St. Bartholomew's, becoming in due course physician (1890) and consulting physician (1912), and in 1887 he was elected physician to the out-patients at the Hospital for Children

and Women, Waterloo Road, becoming physician (1896) and consulting physician (1913).

Haig was one of those the direction of whose medical energies was determined by his own sufferings, for he was a victim of migraine, and, finding that in his case this affliction could be controlled by diet, he set to work—I fancy, under the inspiration of Lauder Brunton—on this subject. At first inclined to believe that an alkaloid formed by bacterial activity in the intestines was the cause of the headache, he subsequently became convinced that uric acid was responsible, not only for this but for other ills that flesh is heir to, and that their panacea was a diet restricted as regards proteins, especially those later called purine bodies, and abstinence from wines. The scope of this hypothesis gradually expanded with the seven editions of his work, *Uric Acid as a Factor in the Causation of Disease* (1892-1908), the six editions of his *Diet and Food* (1898-1906), and the stream of papers, which began in 1884, in the *Med.-Chir. Transactions, The Journal of Physiology, The Practitioner, St. Bartholomew's Hospital Reports*, and elsewhere. His deductions rather outstripped the logical conclusions of his premisses: not only were they so far-reaching as to justify criticism, but the analytical method on which he depended for the estimation of uric acid was vigorously challenged, especially at the Royal Medico-Chirurgical Society. But however this may be, it should be remembered that Haig was an independent, industrious and earnest investigator, was honest in his whole-hearted belief in his results, and certainly greatly benefited many fellow sufferers. Failing health necessitated his retirement some ten years ago; although his symptoms were far from pathognomonic, he diagnosed angina pectoris, and I am informed that the post-mortem examination revealed advanced obstruction and calcification of the coronary arteries and much myocardial degeneration. Like Metchnikoff, he believed that the arterial change existed before he adopted dietetic precautions.

In conclusion, let me express my deep appreciation to the College for this high honour and for ever loyal support, to the Censors' Board and College Officers for their courteous assistance, and specially to the Registrar for constant help.

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With the President's Compliments

THE ANNUAL ADDRESS

DELIVERED TO THE

ROYAL COLLEGE OF PHYSICIANS OF LONDON

On Monday, 6 April, 1925

BY

THE PRESIDENT

SIR HUMPHRY ROLLESTON, BART., K.C.B., M.D., D.SC., D.C.L., LL.D.



London

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PRESIDENTIAL ADDRESS.

At the present time there are 373 Fellows of the College, as compared with 91 in 1825; of the present Fellows 13 have been elected under Bye-law XL (*b*), enacted 26 January, 1911, whereby registered medical practitioners not members of the College, who have distinguished themselves in any branch of the science or practice of medicine can be elected Fellows. Of these 13 there are 10 Fellows of the Royal Society.

Analysis of the present 373 Fellows appears to show that 277, or 74 per cent., are in practice as ordinarily understood. London University heads the list with 147, or 39 per cent., of the 373 Fellows: then follow Cambridge with 97, or 26 per cent.; Oxford with 52, or 14 per cent.; Edinburgh with 35, or 9 per cent.; Durham and Manchester with 7, or 2 per cent., each; and Aberdeen with 4. Fifty years ago Edinburgh University headed the list, closely followed by London, and then came Cambridge, Oxford, and St. Andrews.

The number of Members on 1 January, 1925, was 658, as compared with 636 a year ago and 454 in 1900. Fifteen have died and three have been restored. There is one Extra-Licentiate (1857).

The Licentiates number 15,526 as compared with 14,902 a year ago and 8,188 in 1900. During the year 172 have died, 24 have become Members.

The Diplomates in Public Health number 1,158, in Tropical Medicine 254, in Ophthalmic Medicine and Surgery 114, in Psychological Medicine 68, and in Laryngology and Otology 7.

HONOURS.

The following honours have been conferred by His Majesty the King on Fellows, Members, and Licentiates of the College during the year 1924–5.

Order of Merit: Sir Charles S. Sherrington (Fellow).

Baronetcy: Your President.

K.C.V.O.: Henry John Forbes Simson (Member).

Knighthood : Frederick Gowland Hopkins (Fellow).
Holburt Jacob Waring (Licentiate).
Thomas John Carey Evans (Licentiate).

C.B. : Harold John Kinahan Bamfield (Licentiate).
Charles Marsh Beadnell (Licentiate).
Sebert Francis St. David Green (Licentiate).

C.I.E. : Clement Henry Bensley (Licentiate).

O.B.E. : Robert William Basil Hall (Licentiate).
Nelson Low (Licentiate).
Frederick Emilius Roberts (Licentiate).

HARVEIAN CELEBRATION.

The Harveian Oration was delivered on St. Luke's day by Sir Archibald Garrod, Regius Professor of Medicine in the University of Oxford, the subject being " The Debt of Science to Medicine." The usual dinner was held in the College that evening. In the morning of the same day the President and some of the College Officers attended the Sermon, which under the new rules of the Sadleir Trust was preached at Bow Church by the Rector, the Reverend Gordon Ponsonby, thus reviving an ancient duty long in abeyance. The Lord Mayor also attended the Service.

In the afternoon after the Harveian Oration, the medals awarded during the year were presented by the President, viz., the Moxon Medal to Sir Leonard Rogers, and the Weber-Parkes Prize and Medal to Professor Albert Calmette, of the Pasteur Institute, Paris.

RECEPTIONS.

On 12 November, 1924, the College celebrated the 300th Anniversary of the Birth of Thomas Sydenham by holding a Reception in the evening, which was attended by Fellows and Guests ; a short address on the " Father of Clinical Medicine in Britain " was given, and his works and literary relics were on view.

On 15 July, 1924, Ras Tafari Makonnen, the Heir to the throne and the Regent of Abyssinia, paid a visit to the College and was received by its Officers.

DELEGATES AND REPRESENTATIVES.

At a meeting on 20 May, 1924, the Académie de Médecine celebrated the 300th anniversary of the birth of Thomas Sydenham, when Professor A. Chauffard, the President of the Académie, read a paper on the British Hippocrates. In response to a courteous invitation, the Treasurer, Dr. Sidney Phillips, attended as a Delegate from the College and carried with him a reproduction of the Diploma granted by the University of Oxford to Thomas Sydenham in the possession of the College.

At the Celebration of the Coming of Age of the University of Leeds and of the Jubilee of its parent Foundation, the Yorkshire College of Science (December 15–20), Sir John Broadbent attended as a Delegate of the College and presented a congratulatory address.

Sir Francis Champneys has been re-elected the Representative of the College on the Central Midwives' Board.

Sir Arthur Newsholme has been re-elected a Representative on the Executive Committee of the Imperial Cancer Research Fund, and Sir George Newman appointed to the same Committee, vice Dr. Sidney Martin, deceased.

ADMISSION OF WOMEN TO THE FELLOWSHIP.

On 29 January, 1925, an alteration was made in the Bye-Laws whereby women were made eligible for the Fellowship. Bye-Law No. 194 now reads :—

> "A woman shall be eligible for admission as a Licentiate or Member of the College and for the grant of Diplomas in special subjects on the same terms and conditions as a man, and a woman shall also be eligible for election as a Fellow of the College and shall be entitled to take part in the government, management and proceedings of the College and to hold any office in like manner as a man is eligible and entitled."
>
> "So far as may be necessary to give effect to this Bye-Law (*a*) words in the Bye-Laws and Regulations importing the masculine gender shall be deemed to import the feminine gender also and (*b*) such

alterations as are requisite shall be made in the Letters Testimonial, the Form of Licence and attached Certificate, and the Form of Diploma granted by the College."

LECTURES.

In the Oliver-Sharpey Lectures on 29 April and 1 May, 1924, Professor A. V. Hill described (1) "The Recovery Process in the 'Isolated Muscle,'" and (2) "The Recovery Process in Man," and dealt specially with the metabolism of lactic acid and the influence of oxygen, giving an account of oxygen requirement and oxygen debt.

The Croonian Lectures were delivered on 17, 19, 24, 26 June, 1924, by Sir Leonard Rogers, who in taking for his subject "Researches on Leprosy and their Bearing on the Treatment of Tuberculosis" brought forward in a most judicial and modest manner the extensive work of many years' research.

Dr. F. J. Poynton's Bradshaw Lecture on "The Prevention of Acute Rheumatism," on 4 November, 1924, dealt in a broad spirit with the measures that from his long experience and consideration of the subject should be undertaken to obviate the widespread cardiac disease due to this cause.

The Mitchell Lecture on 6 November, 1924, was delivered by Sir StClair Thomson, who took as his subject "Tuberculosis of the Larynx: its Significance to the Physician," and summarised his observations on 477 cases of laryngeal tuberculosis among 2,541 patients with pulmonary tuberculosis at King Edward VII Sanatorium, Midhurst. This lecture clearly proved the value of such special investigations to the general physician.

In the FitzPatrick Lectures on 11, 13 November, 1924, Dr. Charles Singer continued the "History of Anatomy" up to the time of William Harvey, and gave a most interesting and attractively illustrated account of these mediæval anatomists with many criticisms born of prolonged research.

In the Milroy Lectures on the 5, 10 and 12 March, on "The Epidemic Diseases of the Central Nervous

System," Dr. Salusbury MacNalty dealt in a scholarly manner with the most recent knowledge, to which he contributed much, of cerebro-spinal fever, acute poliomyelitis, and epidemic encephalitis, and discussed the reasons for their recently increased prevalence.

The Goulstonian Lectures were delivered by Dr. J. A. Ryle who, taking as his subject " The Study of Gastric Function in Health and Disease," brought forward a wealth of personal observation with much reference to fractional test meals—a method which he has done so much towards introducing into this country.

The Lumleian Lectures on " Some Forms of Vomiting in Infancy " were given on 26, 31 March and 2 April by Dr. Hector Charles Cameron, who, among other interesting points, showed good reason to regard so-called congenital hypertrophic stenosis of the pylorus as due to achalazia of the pyloric ring sphincter with hypertrophy of the pyloric cylinder.

On May 5, 1924, Professor K. F. Wenckebach, of the First Medical Clinic, Vienna, and formerly of Strassburg and Gröningen, delivered a lecture on " Angina Pectoris and the Possibilities of its Surgical Relief," in which he confirmed Sir Clifford Allbutt's view that this disease is due to lesions of the aorta. This lecture was given in the large library attended by 150 persons and was followed by a short summary of his opinons by the late Sir Clifford Allbutt.

MEDALS AND SCHOLARSHIPS.

The *Moxon Gold Medal* was awarded to Sir Leonard Rogers, C.I.E., M.D., F.R.S.

The *Weber-Parkes Prize and Medal* to Professor Albert Calmette.

The Swiney Prize (awarded jointly by the Society of Arts and the College) to Sir Paul Vinogradoff, F.B.A.

The *Murchison Scholarship* to Mr. Norman William Snell.

The *Jenks Scholarship* to Mr. Anthony Richard Charles Higham.

GIFTS TO THE COLLEGE.

In addition to many valuable books presented to the Library by various donors, a miniature of Dr. William Coxe, a Fellow of the College (1748), Censor and Harveian Orator, was given by Dr. W. S. A. Griffith, and a collection of fifteen engraved portraits or prints of Physicians and other scientific men was presented by Dr. Hugh Thursfield. Medals belonging to the late Dr. P. H. Pye-Smith, F.R.C.P., F.R.S., were bequeathed to the College by his widow, a curio table was presented by Dr. Kingston Barton, M.R.C.P., and a large portrait in oils of the late Dr. William Brinton, F.R.C.P., F.R.S., by Edward Armitage, R.A., came from his son Hubert Brinton, Esq.

FINANCE.

Conjoint Finance for 1924.—The net amount divisible between the two Colleges came to £25,678, an increase of nearly £2,600 on the previous year (1923). Mr. F. G. Hallett's stipend has been raised to £1,200.

College Finance.—A sum of about £11,000 has been invested. During the year the College has given 100 guineas towards the rebuilding of the tower of Hempstead Church (where Harvey is buried), towards the restoration of the church bells at Burmarsh, where Harvey's estate was situated, 20 guineas, and towards the fund for the restoration of St. Paul's Cathedral, 20 guineas.

The yearly honorarium of the President has been raised to 300 guineas, and that of the Harveian Librarian to 125 guineas.

An arrangement has been made by which the President, in the presence of the Treasurer, may seal any instrument necessary for carrying out the business of the Finance Committee, without waiting till the Comitia is held.

As reported last year, the vexed question of the Anslow rent charge under the Lumley Trust is still unsettled.

CONWAY EVANS PRIZES.

In February, 1925, the residuary trust funds of the estate of the late Dr. Conway Evans, M.R.C.P., Medical Officer for the Strand District, who died in 1892, were

transferred " to the President of the Royal Society and the President of the Royal College of Physicians of London and their successors in office " that, in accordance with the terms of his bequest, they " shall apply the same in giving rewards to such person or persons who in the opinion of the Presidents have rendered or shall from time to time render some valuable contribution or addition to science as it exists at the time of my death either by invention, discovery or otherwise, but so that no income shall be given to enable any experiment to be carried out in the hope that the same may result in a contribution or addition to science, and it shall not be obligatory on the Presidents to give any such rewards, yearly or at any stated period, but the Presidents shall have full discretion as to the time of giving and the amount of any reward it being my desire that every reward shall be valuable and given only for a valuable addition or contribution to science." The testator desires that all such rewards may be called " Conway Evans Prizes."

The funds of the Conway estate now stand in the names of the Presidents of the Royal Society and of the Royal College of Physicians, and have been placed under the authority of the Charity Commission.

The income is estimated at £180 to £190 per annum.

JOSEPH ROGERS PRIZE.

By the will of Dr. Joseph Rogers, who died in 1889, the Royal College of Physicians and the Society of Apothecaries became possessed in 1925 of £500 5½ per cent. Treasury Bonds and £20 10s. 2d. 4½ per cent. Conversion Stock, 1940–44. These investments have been placed under the control of the Official Trustees of Charitable Funds on behalf of the President for the time being of the Royal College of Physicians and the Master for the time being of the Society of Apothecaries of London, together with £153 16s. 8d. 4½ per cent. Conversion Stock accrued income. The income of the Trust Funds after payment of any expenses incurred in the administration will be applied in payment of the " Rogers Prize " " to such person as in the opinion of the Trustees shall within a period and upon the terms to be specified by the Trustees by advertisement in some newspaper or newspapers or otherwise

have written the best or only good essay on the treatment of the sick poor of this country and the preservation of the health of the poor in this country or either of such subjects."

The prize is to be awarded for the first time on 21 June, 1926 (the anniversary of the death of the widow of Dr. Joseph Rogers), and after that once in every ten years.

If at any of the times at which the prize might be awarded, no essay shall have been submitted which in the opinion of the Trustees merits a prize, then the Trustees shall apply the income at their disposal for the benefit of the Medical Benevolent College (*sic*) or some kindred charitable institution.

CANADIAN GOVERNMENT.

Proposals from the Canadian Government for the surrender by the College of its perpetual lease have been renewed during the past year, and have been considered by the Committee appointed in July, 1923, to consider the question of increased accommodation for the College, but so far the Committee has not found it necessary to advise the College to modify the decision of 26 March, 1924, which was adverse to similar proposals.

COMMITTEE OF MANAGEMENT.

The number of candidates for the Final Examination has increased during the past year from 1,327 to 1,678. This large increase of numbers has necessitated the regular employment of twelve Examiners in Medicine, and even with this number the examinations have been of long duration, with the result that the President has been asked to sign and seal diplomas after the quarterly meetings of the College. The foregoing numbers include re-examinations; but it may be interesting to compare the number of new students, that is exclusive of re-examinations, who were examined during the past year with those examined during the last completed year before the war :—

	1913–14.	1923–24.
First Examination	144	163
Second Examination	205	370
Third Examination	398	1,110

Dr. R. A. Young visited the Cairo School of Medicine in December, 1923, on behalf of the Royal Colleges, and his report was considered by the Committee of Management in March, 1924. As the result of the report of the Committee, which was adopted by the Royal College of Physicians on the 14th April, 1924, and by the Royal College of Surgeons in the previous month, a letter was sent to the Minister of Education of the Egyptian Government containing the resolutions adopted by the Royal Colleges and calling attention to the necessity for complying with the conditions laid down by the Royal Colleges if it was desired that the recognition of the School should be continued. No reply has been received to that communication, consequently the recognition of the School will cease in May next.

The Committee of Management in May drew up certain detailed conditions relating to the admission to examination of Indian doctors who do not possess registrable qualifications. These conditions merely carried out the principles already adopted, but were drawn up to meet the varying conditions of the Bodies granting Indian diplomas.

Through the good offices of Sir Holburt Waring, a collection of surgical instruments originally intended for a German war hospital, and valued at £280, had been purchased for the use of the examinations for the sum of £31.

In October the Committee reported to the Royal Colleges the list of hospitals which had been recognised for the special diplomas during the year.

By the adoption of the report of the Committee of Management, dated the 4th March, 1924, the Welsh National School of Medicine with the Cardiff Royal Infirmary are now included in the list of Institutions recognised by the Conjoint Board.

In November and December, the Committee considered a communication from the Examiners for the Diploma of Laryngology and Otology, making various recommendations for alterations in the regulations and synopsis of the examination for the Diploma. A meeting was held with the Examiners and ultimately a report from the Committee was presented to the Royal Colleges embodying various alterations in the regulations and syllabus which was approved by the Royal Colleges.

In December the Committee decided to recognise six months of service in the Navy as Specialist in the Throat, Nose, and Ear Department of the Royal Naval Hospitals at Haslar, Chatham, and Plymouth for six of the twelve months of clinical work required for the Diploma of Laryngology and Otology, and the course of laboratory work under the Professor of Tropical Medicine at the Royal Army Medical College was recognised for the examination for the Diploma of Tropical Medicine and Hygiene.

Sir William Hale-White, who retired from the Committee by rotation, was re-elected a Member.

In December the Committee decided to recognise the course of Sanitary Science, Vital Statistics, etc., at the Royal Institute of Public Health, so long as it is given by Dr. Albert E. Thomas, Medical Officer of Health for Finsbury, for the course required in that subject under the regulations for the Diploma of Public Health.

The revised syllabus for Part II. of the examination for the Diploma of Public Health was approved by the Committee on the 17th December, and was adopted by the Royal College of Physicians at the end of January, 1925.

In March, 1925, the Committee considered a proposal by the Examiners in Physiology to conduct an examination in practical physiology of a simple character, and the Committee agreed to the proposal. It was decided that the practical examination should not take effect until July, 1926, so that the Schools may have a whole academic year in which to prepare students for the examination. It was pointed out that the regulations already provided for a practical examination, although effect had not been given to them.

The Committee had before them a proposal to extend the curriculum for the Diploma of Tropical Medicine and Hygiene from three to five months in accordance with the views of the teachers of the various subjects in the curriculum, it having been made clear that the range of the subject necessitated an extension of the course. A report from the Committee of Management will be presented to the Royal Colleges recommending that the regulations be altered so as to require a five months'

course, and that there be two examinations in the year instead of three as heretofore.

GOVERNMENT DEPARTMENTS.

The Home Office asked for suggestions as to filling the place of Sir H. Bryan Donkin (resigned) on the Advisory Board for the Administration of the Act concerning Cruelty to Animals, and the names of Sir Archibald Garrod and Dr. Raymond Crawfurd were suggested.

The Home Office also asked for the nomination of experts on the evil effects of veronal. Sir William Hale-White, Dr. R. Percy Smith, and Professor A. J. Clark were nominated.

The Ministry of Health asked for a considered opinion on suppressing or limiting the manufacture of heroin, and this was supplied by Sir William Hale-White and Sir William H. Willcox.

LONDON UNIVERSITY.

A communication from the Departmental Committee on the University of London (forwarded by the Vice-Chancellor of the University), and relating to the incorporation of the Medical Schools with the University was considered last January. The opinion of the College was against such incorporation, but that if incorporation proved to be necessary it should be applied to all the Medical Schools alike. Sir Wilmot P. Herringham and Dr. J. Fawcett were appointed to give evidence before the Committee, should witnesses be required.

GENERAL MEDICAL COUNCIL.

The General Medical Council met on 25, 26, 27 and 28 November, 1924, and dealt mainly with penal cases for irregularity in issuing certificates, drunkenness and professional advertisement.

A licentiate of the College was summoned for issuing 79 certificates without seeing the patient; he was admonished and judgment was postponed on him for one year.

A licentiate of the College, William Lovell (1907), was summoned for repeated convictions, including seven

at police courts and two courts-martials (the first involving degradation of rank, and the second dismissal from His Majesty's Service) for drunkenness. His name was erased from the Medical Register.

A licentiate of the College was summoned for signing certificates, whereas he had not seen the patient. Judgment was postponed for six months.

The name of D. A. Chaning Pearce, a licentiate, was restored to the Register.

CENSORS' BOARD.

Disciplinary.—A licentiate, whose name had been erased from the Medical Register for drunkenness, was induced to enter a home, and the Board deferred reporting the case to the College pending further information as to his sobriety.

Another licentiate, whose name had been erased from the Medical Register for the same reason, took no notice of the summons to attend the Censors' Board, and the President and Censors are recommending the College to withdraw his licence.

A member was summoned to appear before the Board to explain his position as Director of a company trading as chemists and druggists, and it was resolved, "That, in the opinion of the Censors' Board, it is undesirable that any Fellow or Member of the College should hold the post of Director in a company trading as retail chemists or druggists."

Membership Examinations.—The numbers of candidates have been as follows :—

	Applicants.	Withdrew before the Exam.	Referred.	Approved and admitted as Members.
1924.				
April ..	18	1	10	7
July ..	29	2	10	17
October	19	0	11	8
1925.				
January	40	4	19	17
	106	7	50	49 or 46 per cent.

Changes in the Character of the Examination.—The languages have been made optional. On 8 May, 1924, the Comitia passed the following resolution: "That Candidates be informed that the languages are not compulsory, but that credit will be given to those who show a knowledge in these subjects."

The question whether or not, in certain circumstances, Candidates engaged in special lines of practice or research should be allowed to offer such subjects in place of part of the ordinary examination, was brought forward by Lord Dawson at the Comitia held on 23 July, 1924, and after a long debate was referred to a Special Committee. This Committee has met twice and its Report will be brought before this present Comitia.

THE LIBRARY.

During the year the usual work of the Library has proceeded. As in latter years several Bodies interested in Archæology and Bibliography have been received and shown over the Library by the Harveian Librarian. The book-plate designed for the Library has been completed, and is now in use. The Catalogue of Prints is nearing completion.

Obituary Notices.

During the Presidential year there have been 11, or 3 per cent., deaths among the Fellows, practically the same proportion as last year. In addition, an obituary is given of Dr. Hugh Walsham, whose death, though occurring in the previous year, was not known at the time of the last Presidential Address (14 April, 1924). Of these 12 Fellows, the deaths of the Registrar, Dr. J. A. Ormerod, Sir Clifford Allbutt, and Sir James Mackenzie are a specially severe loss to the College and British medicine. The average age of the 12 deceased Fellows is 73 years.

Name.	*Date of Death.*	*Age.*
	1924.	
Hugh Walsham	13 April ..	70
Richard Hingston Fox	20 April ..	71
Sydney Russell-Wells	14 July ..	54
Sidney Harris Cox Martin ..	22 September ..	64
Henry Gervis	25 September ..	86
John Francis Walkinghame Tatham	8 November ..	80
Robert James Lee	17 November ..	83
Herbert Williamson	16 December ..	52
	1925.	
Clement Dukes	18 January ..	79
James Mackenzie	26 January ..	71
Thomas Clifford Allbutt ..	22 February ..	88
Joseph Arderne Ormerod ..	5 March ..	76

HUGH WALSHAM.

The death of Hugh Walsham on 13 April, 1924, from a rather obscure form of afebrile bronchopneumonia, which came on after exposure while visiting King Edward VII Sanatorium, Midhurst, as consulting radiologist, removes one of the early pioneers in X-ray work, who had sorely suffered from his devotion to a new method of diagnosis and treatment.

He was born in London on 7 November, 1853, as the second son of William Walker Walsham, of Wisbech, Cambridgeshire, seven years after his brother William

Johnson Walsham (1847–1903), surgeon to St. Bartholomew's Hospital, whose physique has been thought to have resembled very closely that of William Harvey. Educated at King's College School and at Caius College, Cambridge, where he graduated B.A. in 1879—the same year as H. Lewis Jones, with whom he was afterwards closely associated in electrical and X-ray work—Walsham entered the Medical School of St. Bartholomew's Hospital in May, 1880, and we clerked together for Sir William Church in 1883. He took the M.B., B.Ch., Cambridge, in 1887, proceeding to the M.D. degree in 1897, was admitted a Member of this College in 1891 and elected a Fellow in 1901.

At the City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, he was elected pathologist in 1894, becoming in due course physician to outpatients in 1896, physician in 1910, and consulting physician in 1919. In the early days of skiagraphy he acted as radiologist to the hospital, and so was able to collect material for what became his life's work—the skiagraphy of the chest. His pathological post provided opportunity, which was utilised to the full, for investigating the morbid anatomy of the tonsils. In his thesis for the M.D. at Cambridge on latent tuberculosis of the tonsil (*Trans. Path. Soc.*, London, 1898, xlix, 67–83) he concluded that the tonsils are a frequent primary site of tuberculosis, that tubercle bacilli may pass through them to infect the cervical glands without leaving any trace in the tonsils, and that the tonsils are often secondarily infected in pulmonary tuberculosis. The study of epithelial pearls (*ibid.*, 1899, 1, 65) and of cartilaginous and bony nodules in the tonsils (*Lancet*, 1898, ii, 394) also received his attention. In the following year he wrote on the relation of pulmonary tuberculosis to mitral stenosis (*Brit. Med. Journ.*, 1899, ii, 1176), and in 1903 was awarded the Weber-Parkes Prize and first medal for his work on the *Channels of Infection in Tuberculosis*, which was published in 1904 (John Bale, Son and Danielsson). But the work for which he will mainly be remembered was the use of X-rays in the diagnosis of intrathoracic disease ; for this task his experience at a chest hospital, first as pathologist, then as physician, prepared him in a special degree. At St. Bartholomew's Hospital he was

appointed assistant medical officer in the X-ray department under his friend Lewis Jones, in September, 1907, became medical officer in 1912, and, after resigning in November, 1917, was elected consulting radiologist and a Governor of the Hospital. As consulting radiologist to King Edward VII Sanatorium, Midhurst, he paid monthly visits and never spared time, trouble or his own health. In 1906 he brought out, in collaboration with G. Harrison Orton, *The Röntgen Rays in the Diagnosis of Diseases of the Chest*, having prepared the way by a number of papers such as "Stereoscopic Skiagraphy in Diseases of the Chest" (1899), "Diagnosis of Thoracic Aneurysm by Röntgen Rays" (*Edin. Med. Journ.*, 1901, N.S., ix, 355), and "Röntgen Rays in the Diagnosis of Pulmonary Tuberculosis" (*Trans. Congress Tuberculosis*, 1901).

Walsham's signal services to radiology cost him dear, for of late years he was severely crippled, and became rather a hermit, though he was remarkably cheerful and genial in the company of his old friends. From a study of the causes and course of lesions in X-ray workers he came to definite conclusions as to the importance of seriously considering cutaneous cracks or sores associated with corns, but characteristically did not apply this precaution in his own case. Walsham was not a rapid worker, but he was most conscientious and persistent, and as an example it may be mentioned that in order to understand astronomy and solar physics, in which, as in geology, he was keenly interested, he mastered the differential calculus after he was sixty years of age.

RICHARD HINGSTON FOX.

One of our most recent Fellows, Richard Hingston Fox, had attended the Comitia within a week of his death from acute intestinal obstruction at his home, The Haven, Jordans, Beaconsfield, on April 20, 1924. He was born at Stoke Newington on 2 February, 1853, as the third of six surviving sons, all of whom entered the profession, of Joseph John Fox, surgeon, a member of a well-known medical stock in the West of England, and Sarah Angell Allen, of Stoke Newington, both of whom belonged to the Society of Friends.

In 1871, he entered the Medical School of the London Hospital and qualified M.R.C.S. England and L.S.A. in 1874, but symptoms of incipient pulmonary tuberculosis made it advisable that as a precaution he should go to Australia as a ship's surgeon. On his return he assisted his father in practice at Finsbury Park, and at the same time established a footing in Finsbury Circus, thus becoming interested in Life Assurance, which formed the main sphere of his purely professional activities—at any rate, in later life. He was an original member and an energetic supporter of the Life Assurance Medical Officers' Association, becoming President in 1914, and was one of the chief medical officers to the Friends' Provident and Century Life Office, with which he was connected for nearly forty years. For a time he was assistant physician to Mount Vernon Hospital for Consumption (1916–19). In 1885 he became a Member of this College and an M.D. of Brussels, and in 1923 was elected a Fellow.

Always rather fragile and for thirty years subject to Menière's syndrome, which was a family affection, he gave up general practice in 1902 and moved to Gordon Square and later had a consulting room in Devonshire Place. From his unassuming temperament, born no doubt of Quaker training, and much handicapped by the apprehension of vertiginous attacks, he became somewhat of a recluse, and also a scholar, well versed in Hebrew and Greek texts, especially of the Bible. He made his mark as a medical historian, especially of the eighteenth century, and of the lives of medical men who belonged to the Society of Friends. This was pre-eminently shown in his *Dr. John Fothergill and his Friends* (Macmillan & Co., pp. xxiv and 434, 1919). He was also the historian of the Hunterian Society (founded in 1819), of which he was President in 1912; his oration there in 1897 on William Hunter was published in 1901 (H. K. Lewis, pp. 75) in an expanded form, with additional notices of W. Hunter's friends Cullen, Smellie, Fothergill and Matthew Baillie. At the time of his death he had practically completed, even to the preface, the work he was so admirably fitted to write for the Centenary of the Hunterian Society, embodying a century of medical portraiture. In addition, he was a studious lover of

nature and had an unusually complete knowledge of botany, birds and geology. A man of high ideals and deep religious feeling, he was greatly valued for the share he took in the ministry at the Friends' Meeting House, Jordans, where William Penn used to worship.

SYDNEY RUSSELL-WELLS.

On 14 July, 1924, by the death of Sydney Russell-Wells from sudden heart failure after an attack of pulmonary œdema, of which he had had three experiences during the last two years, the College lost one of its recent Fellows, one of its few Members of Parliament, and an active participant in medical education. He had lately complained of increasing fatigue, and had arranged for a longer summer holiday than usual, but was struck down before he had laid aside work or had been obliged to do so.

Born in Kensington on 25 September, 1869, he was the second child of the second marriage of the late Benjamin Weston Wells with Miss Russell, who came of a medical stock. His younger brother is Sir William Henry Wells, Honorary Treasurer of the British Numismatic Society. After education at the Dorset County School, at the College of Science, and University College, he entered the Medical School of St. George's Hospital on 23 September, 1887, where, in spite of a brilliant career and being Medical Registrar, he failed to gain a place on the permanent staff. He qualified at the Conjoint Board and the M.B. London in 1893, proceeded to the M.D. London and became a Member of this College in 1895, and was elected Fellow in 1922. In his early days he did some pathological work on cerebellar degeneration, on the post-mortem changes in nerves, and on the bacteriology of pemphigus. He then started on the ladder of practice as a general physician, becoming connected with the National Hospital for Diseases of the Heart as assistant physician in 1904, at the time of his death having been physician since 1909. This appointment appears to have determined the course of his practice and published work, as is shown by papers on " The Influence of the Resistance of the Arterial Wall in Blood Pressure and the Pulse Wave "

(with Leonard Hill, *Proc. Roy. Soc.*, 1913, B, vol. lxxxvi, pp. 180–186), on clinical electrocardiography (*Practitioner*, 1916, xciv, 347), on a collective investigation of 10,000 recruits with doubtful cardiac disease (*Brit. Med. Journ.*, 1918, i, 556 ; ii, 248 ; 1919, i, 510, 544), and on the facies of mitral stenosis and aortic regurgitation (*New York Med. Journ.*, 1922, cxv, 196). In 1906 he was appointed assistant physician, and in 1908 physician to the Seamen's Hospital, Greenwich, being senior physician at the time of his death ; as a member of this hospital staff he was a Lecturer in the London School of Clinical Medicine until it was broken up on the outbreak of war. He was also consulting physician to the Society for the Propagation of the Gospel, was prominent in the Guild of St. Luke, of which he was Provost from 1903 to 1909, and was Parliamentary Secretary of the Research Defence Society.

But he will be chiefly remembered for his work in connection with the University of London ; he became a member of the Senate in 1903 as a representative of Convocation, being elected by the Registered Graduates in science, and remained in that capacity a member of the Senate without interruption until his death. As vice-chairman of the Council for external students from 1906 to 1908 and as chairman of that body from 1908 to 1919, his did yeoman's service in watching their interests and maintained a just balance between the internal and external students. In 1919 he was elected Vice-Chancellor in succession to Sir Cooper Perry, who then became Principal Officer of the University ; these duties he performed most conscientiously, with the broadest outlook and sympathy and great advantage to the University, for he founded and insured the success of the School and the degree of Commerce ; he was knighted in 1921 and after this served for an additional year in this exacting office. It naturally gave him great pleasure that in this capacity he should confer a degree on his own daughter. In November, 1922, he succeeded Sir Philip Magnus as its parliamentary representative, and on 18 December, 1918, Sir Frederick Taylor as its representative on the General Medical Council, became a member of the Pharmacopœia Committee, though his experience would have been of great value on the Educational Committee. He was

an able chairman and committee-man, proficient in procedure and thoroughly on the spot as regards points of order: one closely associated with him in hospital committees said, "I have never met anyone like him as a member of committee. He had a gift of exposition and of marshalling his points, which would convert the most determined opponents in an almost uncanny manner." Russell-Wells was indeed no ordinary man either mentally or in physique, and was not likely to be passed over without attracting attention. He must have trained himself with rigor and developed early, for he did not seem to have changed much in the thirty years or more that I knew him.

Russell-Wells was a many-sided man; a prominent Freemason, he had been an officer of the Grand Lodge; his chief hobbies were carpentry and engineering; at his country home at Irstead, near Norwich, he had constructed some new workshops and many useful electrical and other appliances, and indeed had been at work there the day before his death.

SIDNEY HARRIS COX MARTIN.

By the sudden death from cerebral hæmorrhage on 22 September, 1924, of Sidney Martin this College lost one who had played a pioneer's part in the development of scientific medicine and had unobtrusively shouldered the burden of much official work.

He was born in Jamaica on 8 April, 1860, as the second son of John Ewers Martin of that island. Entering University College in 1876 he took the B.Sc. in biology in 1878, and proceeding to University College Hospital in 1880 qualified as a member of the Royal College of Surgeons in 1882; in the following year he obtained the University Scholarship at the M.B. London, also taking honours in the B.S. examination, and in 1884 he became M.D. London, and was elected a Fellow of University College.

The list of his hospital and official appointments is long and bears eloquent testimony to his energy and public spirit. At the Victoria Park Hospital he was pathologist from April, 1887, to September, 1888, and

assistant physician from the latter date to January, 1890 ; in that month he became pathologist and in May of the same year medical tutor to the Middlesex Hospital, resigning in September, 1891, after election in July as assistant physician to University College Hospital where he became physician in 1898 ; his election as assistant physician in 1891 took place two years later than he had reason to expect, and this set-back accounted for his accepting the appointments at the Middlesex Hospital. In the meanwhile he had been elected assistant physician to the Brompton Hospital for Consumption and Diseases of the Chest on 17 March, 1892, and held this office until 18 January, 1900. At University College he was Professor of Pathology from 1895 to 1907, Professor of Clinical Medicine 1902–1907, Dean of the Faculty of Medical Sciences, 1903–1905 ; and at University College Hospital Dean of the Medical School, 1906–1908, during rather critical period, and Lecturer on Clinical Medicine from 1907.

At this College, where he became a Member in 1885 and a Fellow in 1891, he discharged many duties, giving the Goulstonian lectures in 1892 on the chemical pathology of diphtheria compared with that of anthrax, infective endocarditis, and tetanus, the Croonian lectures in 1898 on the chemical products of pathogenic bacteria considered with special reference to enteric fever, and the Lumleian lectures in 1915 on non-ulcerative infections of the colon. In due course he was Examiner at the Conjoint Board (1907–10), Councillor (1909–11), Censor (1915–16) and Representative on the Senate of London University (1919), where he had been Dean of the Medical Faculty in 1914. In addition he gave up much time to committee work and sat on the Sub-Committee on Classification of the fourth decennial revision of the Nomenclature of Diseases (1902–6), which did practically all the work, and was jointly responsible for the revision of the diseases of the digestive system. During the war he served on the Advisory Committee of the Royal Colleges, known as the Committee of Reference for decisions as to the war service of members of the hospital staffs of the London Hospitals, and was chairman of the Hospital Appeals Sub-Committee. As our representative he was a member of the joint Committee of the two Royal Colleges of the Research

Laboratories on the Embankment from 1901 to 1905, and of the Executive Committee of the Imperial Cancer Research Fund from its foundation in 1902, having in 1923 become its chairman in succession to Sir William Church; he was also chairman of the publications sub-committee.

Martin was a pioneer in physiological chemistry before the name bio-chemistry came into vogue, and, starting with researches into vegetable proteins and ferments, did much work in connection with the bacterial decomposition of proteins; between thirty and forty years ago he was much in evidence at the Physiological Society, and was elected a Fellow of the Royal Society in 1895, being on the Council 1919–1921. The application of this work to medicine has already been mentioned in the titles of his lectures before this College, and is to be found in other publications, such as his book on *Diseases of the Stomach* (1895), *Manual of Pathology* (1903), and articles on food poisoning in Allbutt's *System of Medicine* (1897), and on diseases of the alimentary system in W. Bain's *Textbook of Medical Practice* (1904). For the first Royal Commission on Tuberculosis he undertook a most valuable inquiry as to the influence upon the lower animals of food of tuberculous origin (*Appendix of the Royal Commission*, 1893, Part II, pp. 9–106), and was a member of the further Royal Commission (1902–1912) appointed to inquire into the relations between human and bovine tuberculosis.

A man of high ideals, Martin was by nature self-contained, and seldom allowed his feelings to show through the somewhat cynical armour by which he rather successfully hid his genuine kindly character and conscientious devotion to duty; but, with an entire disregard of any appeal for popularity, he was so fearless that when occasion arose he never shrank from expressing the same critical spirit that we must believe he applied silently to his own course of action.

HENRY GERVIS.

Henry Gervis, whose long life terminated at Bath on 25 September, 1924, was the eldest son of Dr. F. S. Gervis, of Tiverton, a member of an old Somersetshire

family ; and, as his son and grandson are members of his profession, there is a continuity through four generations.

Born on 17 October, 1837, and educated at Taunton School, he entered the Medical School of St. Thomas's Hospital in 1855 and qualified M.R.C.S. in 1858, taking the M.B. London with honours in 1860, and proceeding to the M.D. in the following year. At this College he became a Member in 1862, was elected a Fellow in 1874, was on the Council (1895–97), and an Examiner (1880–81, 1885–88).

At St. Thomas's Hospital he was elected assistant obstetric physician in 1860, senior obstetric physician in 1875, consulting obstetric physician in 1887, and a Governor in 1891. He was also consulting physician to the Grosvenor Hospital for Women and to the Royal Maternity Charity. As a representative obstetric physician he examined at the universities of Cambridge and London, contributed an article on sterility to Allbutt and Playfair's *System of Gynæcology* (1896), and was President of the old Obstetrical Society (1883–84) and of the Hunterian Society (1887).

Retiring from London in 1897 to Hillingdon, near Uxbridge, he became a J.P. for Middlesex, and was fully occupied with antiquarian and allied hobbies, being a Fellow of the Society of Antiquaries, the Huguenot Society of London, the British Numismatic Society, and various Archæological societies. In 1907 he removed to Bath, where he was a generous benefactor in money and books and took an active part in the management of the Royal Mineral Water Hospital until his health began to fail. To this College he bequeathed a miniature of William Hunter on ivory by Cosway.

JOHN FRANCIS WALKINGHAME TATHAM.

The death, in his eighty-first year, of John Francis Walkinghame Tatham removes the successor of William Farr and William Ogle, the medical statisticians at the General Register Office. As he left London on his retirement in 1910, and was not at any time much in evidence in the ordinary medical life of London, he was probably known better by name than personally to most of the present Fellows of the College.

Coming of an old Cumberland family, he was born on 24 March 1844, and after spending his early life in Exeter, began his medical education in Sheffield, and obtained his first qualification, the Licence of the Faculty of Physicians and Surgeons of Glasgow, in August, 1867. In 1870 he became house surgeon to the Ardwick and Ancoats Dispensary, and three years later Medical Officer of Health for Salford, taking the M.D. Brussels in 1875, and the D.P.H. Cambridge in October, 1876, on the second occasion on which this examination was held. As evidence of his energy it may be mentioned that in 1884 he graduated B.A. at Trinity College and M.B. at the University of Dublin, proceeding to the higher degrees of M.A., M.D., in 1886. In 1888 he resigned the Salford post on being elected Medical Officer of Health for Manchester, and two years later succeeded the late Dr. Arthur Ransome as Lecturer on Public Health in Owens' College. He was one of the founders, and in 1880 the first President, of the Manchester Microscopical Society, an office which he held again in 1885. On 3 November, 1893, he was appointed Superintendent of Statistics at the General Register Office, and, after attaining the age-limit of 65 years, was retired on 31 July, 1909. In the meanwhile the Royal College of Physicians of Ireland had made him an Honorary Fellow in 1906.

Dr. Tatham became a Member of this College in 1893, a Fellow in 1898, and served on the Classification Sub-Committee for the fourth decennial edition of the Nomenclature of Diseases (1902–1906), and like the late Dr. Sidney Martin was a most constant attendant at the numerous meetings of this Sub-Committee which does almost all the work in this laborious official handbook.

He was President (1906–1908) of the Epidemiological Society which he joined in 1880, and gave his inaugural address on Tuberculosis. As Superintendent of Statistics at the General Register Office he was a member of the Privy Council's Committee on Physical Deterioration, and Chairman of the Statistical Sub-Committee of the Imperial Cancer Research Fund from its initiation in January, 1903, until his death.

Dr. Tatham's writings were naturally on the subject

to which he had devoted his professional life, and began in 1873 with reports on the health of Salford; in 1892 he published the important Manchester Life Table, and later supplemented it by an instalment dealing with the experience provided by the decade 1891–1900. Valuable contributions to our knowledge of the vital statistics of this country were also contained in two letters addressed to the Registrar-General, dealing respectively with the decades 1881–1890 and 1891–1900. As a representative authority he wrote on Medical Statistics in the *System of Medicine* (Allbutt and Rolleston, 1905, vol. i., pp. 45–80). Cautious, clear, and concise in statement, his work has shown the value of vital statistics in relation to the progress of preventive and curative medicine. He was the first to make arrangements with other Medical Officers of Health to exchange their weekly returns of infectious diseases, and so laid the basis of the Ministry of Health's weekly circular to sanitary authorities, which provides information concerning possible epidemics.

Dr. Tatham had a fine presence, resembling that of a country squire rather than that of the student, and had a genial fatherly manner. After his retirement he lived for a time at Lynton, and then, feeling the need of active work, moved to Oxted, where in 1917 he was ordained a perpetual deacon and became curate of Tandridge in the diocese of Southwark. He thus unobtrusively did work during the war in a profession adopted by his only son, who had predeceased him some ten years before.

ROBERT JAMES LEE.

Dr. Robert James Lee, who died on 17 November, 1924, was a Fellow from 1874 to 30 October 1902, when he resigned in order "to give attention to the development of some patents." It is very seldom that a Fellow has taken this step, but on consideration it seemed best to prepare his obituary notice, although in the case of the Right Honourable Robert Farquharson, M.P. (Fellow 1877–1897), who resigned on becoming a member of the Board of Bovril, this course was not adopted after his death on 8 June, 1918.

Robert James Lee, born on 9 November, 1841, in

Golden Square, in the parish of St. James's, was the son of Robert Lee, M.D., F.R.S., the obstetrician who was much interested in the nerves of the heart and of the uterus and gave the Harveian Oration, half in Latin, half in English, in 1864. His son inherited his longevity and lived within a year of his father's eighty-four years.

After education at King's College, London, and at Brighton College, Robert James Lee went up to Gonville and Caius College, Cambridge, as a pensioner on 25 May, 1859, became a Tancred Student in physic on 15 June of the same year, and a scholar of the College in 1862. In the Natural Science Tripos for 1862 he was placed second in the second class, there being no name in the first class, these circumstances being exactly reproduced in 1868 in the case of our late President Sir Norman Moore. In August, 1864, he joined the Medical School of St. George's Hospital where his father was obstetric physician (1835–1866); and in May, 1867, took three months' medical practice at St. Thomas's Hospital. He became M.B. in 1865 and M.A., M.D., Cambridge, in 1869. In the latter year he published a paper on the ciliary muscle in fish, birds and quadrupeds (*Journ. Anat. and Physiol.*, Cambridge, 1869, iii, 14). His father's friends gave him a helping hand, and in January, 1872, he was elected assistant physician to the Hospital for Sick Children, Great Ormond Street, and remained connected with this charity until June, 1887, when he resigned; he lectured on morbid anatomy in the Medical School of the Westminster Hospital from 1870 to 1873, being for a time Medical Registrar to that Hospital, and physician to the Western General Dispensary. On 23 April, 1873, four years before his father's death, he was appointed the first assistant obstetric physician to St. George's Hospital, but resigned on 7 April, 1875, two weeks after Dr. Robert Barnes was imported from St. Thomas's Hospital as obstetric physician; his connection with his old school, however, was continued as Curator of the Museum, a post usually held as the stepping stone next to the staff, until the end of 1875. On 10 June, 1875, he was appointed physician to the London Temperance Hospital and held office until 31 December, 1888. At this College he was admitted a Member in 1866, a Fellow in 1874, at the same election as Dr. Henry Gervis, who pre-deceased him

by less than two months, and gave the Goulstonian Lectures on puerperal fever in the following year.

After 1875 Dr. Lee's activities were mainly directed to the diseases of children, as is shown by a number of publications on hooping cough (1876), rickets, two series of lectures at Great Ormond Street (1885, 1886), and numerous contributions to the *Medical Times* and *Gazette*. His inventive turn of mind was shown in his fumifier (*Lancet*, 1888, i, 967), and he was an ardent advocate of antiseptic inhalation.

In his younger days Lee was a keen athlete, especially on the river and the cinder path, and in 1873 brought out his experience in a pamphlet of 56 pages on "Exercise and Training: their Effects on Health." From 1866 he lived at 4, Savile Row, removing in 1875 to 28, Maddox Street, and at 6, Savile Row, from 1877 to 1898, when he migrated to Gunterstone Road, West Kensington, where his practice was of a less specialised nature; in 1918 he withdrew to West Drayton.

In spite of the opportunities afforded by his hospital appointments, Dr. Lee made little mark either in the science or practice of medicine, and somewhat disappointed his father's admirers.

HERBERT WILLIAMSON.

The startlingly sudden and lonely death near Wendover, on 16 December, 1924, of Herbert Williamson, after an influenzal attack, removed, in the full tide of well-deserved success, a recognized leader in gynæcology and a man of sterling character. Born on 14 January, 1872, the son of the late S. L. Williamson, J.P., of Grantham, he was educated at the Leys School, Cambridge, and St. John's College, Cambridge, where he was placed in the second class of the first part of the Natural Science Tripos in 1893. At St. Bartholomew's Hospital, which he entered on 1 October, 1893, after characteristically making a careful inspection of the chief London schools, he gained the Brackenbury scholarship in surgery in 1896, in which year he took the qualification of the Conjoint Board, proceeding to the M.B., B.Ch. degrees at Cambridge in 1898; at St. Bartholomew's Hospital he was a house surgeon and resident to the Gynæcological Department, which he supplemented by being

assistant resident medical officer at Queen Charlotte's Maternity Hospital (1 November, 1898– 1 March, 1899). But apparently he was still undecided and hesitated between gynæcology and surgery, for from August, 1900, to June, 1901, he was one of the Operating Surgeons at the Imperial Yeomanry Hospital, Pretoria, and conjointly contributed a report to the third volume of the report of this war hospital. It was here that, as a colleague, I first got to know him.

Soon after his return to London he was appointed Demonstrator of Practical Obstetrics in his old school, and was so successful that when the new post of a second assistant physician-accoucheur was made in 1907, there was no question about his selection; in 1919 he became physician-accoucheur. In the meanwhile he had been assistant obstetric physician (1902) and gynæcologist in charge of in-patients (1912) at the Royal Waterloo Road Hospital for Children and Women, physician to out-patients, Queen Charlotte's Maternity Hospital (1906–1908), and obstetric physician to in-patients, City of London Lying-in Hospital (1908–1911). At this College he became a Member in 1903, a Fellow in 1911, and Examiner (1913–16), having also examined in his old University. He contributed the article on "Diseases of the Ovaries" to Allbutt, Playfair, and Eden's *System of Gynæcology* (1906) and various papers to the Obstetrical Section of the Royal Society of Medicine, the *Journal of Obstetrics and Gynæcology*, and other publications. He was an outstanding example of the oratory traditional among the surgeons, Lawrence, Paget and Savory, of his hospital, and as a teacher had a deservedly high reputation. Gynæcology has lost one who attained a very high position in London at an exceptionally early age, and was rightly regarded as a man of unusual ability and judgment. Never sparing himself, he unselfishly gave help in all directions, and was, therefore, much overworked; at his hospital his services on medical committees and his far-sighted prudence were an asset of the greatest value.

CLEMENT DUKES.

The death of Clement Dukes on 18 January, 1925, removed one who in his time played the most prominent part in public school hygiene, and the describer in this

country of the fourth disease which he regarded as differing in definite respects from measles, German measles, and scarlet fever. This distinction, expressed in his paper (*Lancet*, 1900, ii, 89), " On the Confusion of Two Different Diseases under the Name of Rubella," though accepted then, has not stood the test of time ; and both Dukes' conception of the fourth disease and the earlier description of Filatow of Moscow (1885) of rubella scarlatinosa, which he considered bore the same relation to scarlet fever that German measles does to measles, are now mainly of historical interest. He also did much in investigating the clinical conditions of physiological albuminuria. At the end of the last century he held the leading position as a public school medical officer, and contributed much in a clear forcible style to the literature of the subject which he had thus made his own. Thus he was the author of *Health at School* (four editions), *Essentials of School Diet* (two editions), *School Dormitories* (1884), *School Hygiene* (1889), *Work and Overwork in Relation to Health in Schools* (1893), and contributed articles on " The Hygiene of Youth " to Sir Clifford Allbutt's *System of Medicine* (vol. i, 1896 ; 1905), on " School Health " to Sir Malcolm Morris's *Book of Health* (1884), and on " Scarlet Fever " and on " Rubella " to the *Encyclopædia Medica* (1902).

Born in London on 19 November, 1845, he was the son of the Reverend Clement Dukes, and entered the Medical School of St. Thomas's Hospital, qualifying M.R.C.S. in 1867 and taking the M.B. London (honours, 2nd Class in Medicine, 1st Class in Obstetrics) and the B.S. (Gold Medal) in 1869, and proceeding to the M.D. in 1876. In 1868, after being house surgeon at his own hospital, he was appointed resident medical officer at the Hospital for Sick Children, Great Ormond Street, and subsequently worked at the City of London Chest Hospital and the Royal Ophthalmic Hospital, Moorfields. Thus admirably equipped, he succeeded as medical officer our sometime Fellow Robert Farquharson, who left Rugby School with Dr. F. Temple in 1871. During his thirty-seven years in this post he served under four head masters, Drs. Henry Hayman, T. W. Jex-Blake, John Percival and H. A. James, and on his retirement in 1908 was elected consulting physician to the School. He was

also consulting physician to the Hospital of St. Cross, a J.P. for Warwickshire, and Surgeon-Colonel (V.D.) South Midland Brigade and 2nd V.B. Royal Warwickshire Regiment.

At this College he became a Member in 1875, a Fellow in 1900, and in 1911 was awarded the Bisset-Hawkins Memorial Medal for work during the previous ten years in advancing sanitary science or in promoting public health ; he also received the Howard Medal of the Royal Statistical Society for his *Preservation of Health as it is affected by Personal Habits, such as Cleanliness and Temperance* (1884, printed privately), and the Silver Medal of the French Society of Hygiene for *L'Hygiène et l'éducation de l'adolescence.*

JAMES MACKENZIE.

By the death of James Mackenzie medical science lost one of its great and independent pioneers and this College one of its most distinguished Fellows. For seventeen years he had been subject to renal colic and partial angina, in 1908 he had intermittent claudication, and at the beginning of the century he had auricular fibrillation for a time. During 1923 he suffered increasingly from anginoid symptoms, and this was so aggravated by the cold east winds of St. Andrews that early in the spring of 1924 he felt obliged to abandon his work there, at any rate during the winter months, and returned to London. There had been some improvement, and within a week of his death he had motored out, but after several severe attacks he succumbed quietly in the morning of 26 January, 1925, to what has been called the "Doctors' Disease," and from which one of his brothers had already died. Like many distinguished men, he suffered from migraine. and described his own symptoms with figures of his scintillating scotoma (*System of Medicine*, Allbutt and Rolleston, 1910, viii, 558). He was convinced he would not live past the age of seventy years.

Mackenzie was born on 12 April, 1853, at Scone, and was the third child and second son of Robert Mackenzie, who died at the age of 84. Robert Mackenzie, Minister of Alloa, who wrote the life of John Brown (1722–1787), author of *The Self-Interpreting Bible* and great-grand-

father of John Brown (1810–1882) of *Rab and his Friends* and *Horæ subsecivæ*, and Sir William W. Mackenzie, K.C., were his younger brothers. Until the age of fifteen years Mackenzie was educated at the Perth Academy, where, he told me, he was so unsuccessful that the Master advised his mother that it was not worth while for him to continue. For the next six years he was apprenticed to a chemist ; and when twenty-one years of age began medicine at Edinburgh ; he qualified M.B., C.M. in 1878, becoming M.D. in 1882, and was resident in the Royal Infirmary to Sir Douglas Maclagan and W. R. Sanders, Professor of Pathology, to whom in after life he expressed his indebtedness. After visiting Vienna he joined, in 1879, Dr. John Brown, a connection of the author of *Rab and his Friends*, in practice at Burnley, where he worked with the results known to all, for twenty-eight years. Instead of being content with routine explanations and adopting the attitude of " the practical man," he worked out his own salvation and that of many others by an exhaustive analysis of the meaning and significance of symptoms so familiar that they were tacitly regarded as needing no further thought. To the uncompromising self-question " Do I understand the meaning of a single sign or symptom in all its aspects—for example, the mechanism of its production or the bearing of its cause upon the patient's general health ? " he had the honesty to admit that he did not. He realised that experience of patients watched for years enabled the general practitioner to study the early stages of disease, and so to arrive at a real prognosis in a manner impossible for the consultant at a medical school, and accordingly utilized these opportunities to the full with a wonderful perseverance which was eventually crowned with success. In 1902 his work, *The Study of the Pulse, Arterial, Venous and Hepatic, and of the Movements of the Heart*, dedicated to his partner, " my old friend Dr. John Brown," appeared, and it became obvious to those who had eyes to see—such as Sir Clifford Allbutt, who welcomed and reviewed it (*Brit. Med. Journ.*, 1902, ii, 250)—that an original seer of solid achievements was at work in the " Galilee of Burnley " ; to quote Sir Clifford's prophetic words, " This work must take a permanent place in the standard records of the subject." To many physicians Mackenzie's striking

personality, before he became somewhat aged, first became known when he gave an address on heart-block at the Toronto Meeting of the British Medical Association in 1906, and demonstrated his conclusions about "nodal rhythm" (auricular fibrillation) before the first meeting of the Association of Physicians of Great Britain and Ireland on 23 May, 1907, in London.

In 1907 he moved to London and entered on the second period of his active professional life as a consultant, a phase of harvest equally hard but of more obvious success. On 8 January, 1909, he gave a demonstration before a crowded meeting of the Clinical Section of the Royal Society of Medicine of his ink polygraph, and of the light thus thrown on cardiac irregularities, especially nodal rhythm, or in present language auricular fibrillation. He was physician to the Mount Vernon Hospital for Diseases of the Chest from 20 October, 1909, to 20 November, 1912. On 19 December, 1910, he was appointed Lecturer on Cardiac Research at the Medical College of the London Hospital, and on 20 January, 1913, was placed in charge of the Cardiac Department of the Hospital with 12 beds and one out-patient day a week. He became consulting physician to the Hospital in May, 1918. In 1908 he became a Member, and in 1913 a Fellow, of this College, having in 1911, while a Member, delivered the Oliver-Sharpey lectures on "An Analysis of the Present-day Conception of Heart Failure. The Estimation of Heart Failure and the Value of Symptoms." His open criticism of the backward pressure explanation of heart failure and of the importance popularly attached to murmurs, raised considerable discussion. Later in the year he gave the Schorstein Lecture at the London Hospital on auricular fibrillation which, with the assistance of Sir Thomas Lewis's electrocardiographic work, he at once recognised as the underlying condition of what he had described as nodal rhythm.

His great book *Diseases of the Heart* appeared in 1908, was translated into French, Italian, and German, reached a third edition in 1913, a fourth edition being now in the press. He thus became recognised by the world at large as a leading authority on the subject, stimulated and carried out much research work in London, including that on digitalis (1911), and in due course acquired an

unrivalled position as a consultant. In June, 1914, he delivered the first George Alexander Gibson Memorial Lecture at Edinburgh on his friend's life and work; but with the outbreak of war he became immersed in military work, drew up for the War Office a memorandum for medical examination of the recruit's heart, conducted an enquiry for the Medical Research Committee on the irritable heart of soldiers (1916), was for a time a member of the Final Appeal Board; from 1915 took an active part, together with the late Sir Clifford Allbutt and the late Sir William Osler, in the organisation of the Heart Hospital at Colchester, and, in the words of the present Director-General of the Army Medical Corps, his "characteristic energy, devotion, and the great value of his advice to the Service and the State were unquestionable." In 1916 he brought out the "Principles of Diagnosis and Treatment in Heart Affections," which reached a second edition, with James Orr of St. Andrews in 1923.

His last year's (1917–1918) work in London was extremely strenuous, for he had made up his mind to retire from consulting practice, and was anxious to increase the funds necessary to start the Institute for Clinical Research at St. Andrews on the lines which he felt sure were right though difficult, namely, the prevention of common diseases by means of the investigation and the assessment of symptoms, before the occurrence of structural changes, rather than by the application of laboratory methods to the patient, which indeed he, as the inventor of the clinical polygraph, could hardly be suspected of ignorantly disparaging. His message to the profession on leaving London in April, 1918, after eleven years of consulting life, was "The Future of Medicine" (1919), in which he emphasised the importance of analysing the patient's symptoms in the early stages of disease before any morbid changes have followed, and of correctly estimating their significance; the only medical men now really in a position to carry out this neglected line of research were the general practitioners, though until comparatively recent times the teachers of medicine, and those who did so much to advance our knowledge, were to all intents in general practice, such as Harvey, J. Hunter, and E. Jenner. The vast majority

of medical students become general practitioners, but during their curriculum never come under the instruction of a general practitioner. He, therefore, advocated that every medical school should have among its teachers at least one with ten to twenty years' experience of general practice. He was never tired of defending the thesis that the opportunities of the general practitioner are essential for the investigation of disease and the progress of medicine, and did so vigorously at St. Mary's Hospital during a course of invited lectures on pathological research and its relation to medicine (*vide Brit. Med. Journ.*, 1921, i, 797).

Leaving London on 9 April, 1918, and settling at New Park, St. Andrews, Fife, he successfully organised the Institute for Clinical Research, forming a medical staff out of the resident general practitioners, obtaining the assistance of Professors P. Herring and David Waterston, as well as a laboratory staff in chemistry, bacteriology, and radiology from the University, and Dr. Maitland Ramsay of Glasgow as consulting ophthalmologist. Consulting practice did not, indeed could hardly be conceived to, leave him entirely at peace, but the fees went to the object closest to his ambitions, the St. Andrews' Institute. When it opened Mackenzie delivered an address on 5 November, 1919, on clinical research (*Brit. Med. Journ.*, 1920, i, 105), and was most active in publishing reports on the work done there, which were collected in the two published volumes of the *Reports of the St. Andrews' Institute for Clinical Research* (1922, 1924). Stress was laid on the law that the vast majority of the symptoms of disease are disturbances of normal reflexes (1921). In 1921 he published *Heart Disease and Pregnancy*, which he had decided to write twenty years before, and in 1923 his great work on angina pectoris saw the light.

Mackenzie's contributions to medicine, starting in 1892 with the studies of sensory symptoms associated with visceral disease (*Medical Chronicle*, 1892, xvi, 293) and of pulsation in the veins (*Journ. Path. and Bacteriol.*, London and Edinburgh, 1892, i, 153), covered a large area, and his broad views are well shown in his work *Symptoms and their Interpretation* (1909), which reached a fourth edition in 1920, and was translated into four

European languages. His early work on referred pain and on the heart were much influenced by the teaching of James Ross of Manchester, who was also originally a general practitioner. Mackenzie was essentially a thinker and observer, and in contrast to the late Sir Clifford Allbutt, whom he addressed as "my dear Master" in a letter now in our collection of autographs, was not a great reader of other men's writings. He thus sometimes unconsciously went over the same ground as previous workers. He did much in applying physiology to clinical medicine and thus followed the example of John Hilton, the author of *Rest and Pain*. This course he pursued from first to last, from his invention of the apparatus for the graphic registration of pulse movements during his general practice at Burnley, when he "had seldom been able to give an uninterrupted hour's study to the subject," until almost his last publication, *A Plea for Clinical Physiology*, a subject which he had stimulated his colleagues at St. Andrews' Clinical Institute to follow out.

Honours crowded upon him; he was knighted in 1915, elected F.R.S. in 1916, and appointed consulting physician to H.M. the King in Scotland in 1920. Aberdeen in 1910 and Edinburgh in the following year had made him Hon. LL.D., and the Royal College of Physicians of Ireland an Honorary Fellow in 1912. As lately as December, 1924, the Council of the Faculty of Medicine of the University of Toronto awarded him the Charles Mickle Fellowship, which is given to the member of the medical profession considered to have done most during the preceding ten years to advance sound knowledge of a practical kind in medical art or science.

A great pioneer in medicine has passed into the great silence; that by his individual efforts he revolutionised cardiology is clear, but how far his inspiration will have a corresponding effect on medicine as a whole, and how accurate his foresight into the future of medicine may be, it is impossible yet to decide. At present it must be admitted that his later views were not as clear to others as they apparently were to him, but who can tell how far the future will show that he was on the right lines.

Mackenzie was a hard-headed and enthusiastic Scot, plain spoken, sometimes blunt, and not devoid of emotional impetuosity; he was disinclined to admit any

argument but demonstrable truth, to which indeed he would obediently bow. He could fight, and was, indeed, by no means backward in defending what he considered "the light" and the right. While freely acknowledging his own ignorance, he treated others as he did himself, and did not suffer opponents gladly. The path of reformers and pioneers is rarely free from thorns, and Mackenzie must have realised that this was the natural law ; at any rate he often acted in advance. He was a great personality and worthily upheld the torch of clinical medicine in this country.

THOMAS CLIFFORD ALLBUTT.

The sudden and unexpected death, after ten minutes dyspnœa, at 1 a.m. on 22 February, of Sir Clifford Allbutt, robs Cambridge of her Regius Professor, this College of its most distinguished Fellow, and medicine of one of its great personalities. During the autumn term he suffered an alarming attack of syncope, and for years had been subject to the curious experience of occasionally becoming aware that spontaneous respiration had ceased and that he had voluntarily to maintain it, recalling John Hunter's first attack of angina ; his normal pulse rate was 48, and he was the subject of a number of idiosyncrasies, to tobacco, tea, coffee and drugs. Apparently he felt that his time was drawing short, for he had recently decided to retire in July.

Thomas Clifford Allbutt was born on 20 July, 1836, as the only son and elder of the two children of the Reverend Thomas Allbutt, Vicar of Dewsbury in Yorkshire and friend, like Sir Norman Moore, of Charles Waterton the naturalist. The name Clifford was his godfather's, the husband of his father's sister and an artist, whose son Edward Clifford painted the water-colour portrait of Lady Allbutt over the fireplace in his study at St. Radegund's. Educated at St. Peter's School, York, under Archdeacon Hey, a naturalist of some distinction, he went up to Gonville and Caius College, Cambridge, in 1856, and obtained a classical scholarship in his first year. On 5 November, 1858, he entered, as University students commonly did in those days, the Medical School of St. George's Hospital and so was able to take the M.B.

Cambridge in the same year, 1860, that his was the only name in the first class of the Natural Sciences Tripos with distinction in chemistry and geology. He proceeded to the M.D. in 1868. He never took the University licence to practise physic, which was not granted until a year after the M.B., for his signature does not appear in the Registry, and indeed it was abolished in 1859. At St. George's, as a clinical clerk for H. Bence Jones, he became interested in acute aortitis, a subject he frequently returned to in connection with angina, and followed the microscopical work of J. A. Lockhart Clarke in neurology. After this he worked for a time in Paris under Trousseau whom he described as "doing his own thoracic surgery." About 1862 he settled in Leeds to begin a crowded life of extraordinary activity in clinical and original observation, being physician to the Royal Infirmary (1864–1884). Ever on the look out for new knowledge, he collected from practitioners many observations, expecially on prognosis and treatment, which would otherwise have been hidden and eventually lost, and was always most ready to communicate his finds to others. Some of his best work was done in these days of an extensive consulting practice, and many advances really due to him have passed into the common knowledge of medicine ; in 1868 he described syphilitic disease of the cerebral arteries, and invented the present short form of clinical thermometer, the previous available one being, as he once described it, like a short umbrella ; in the following year he advocated the value of morphine in some forms of advanced cardiac disease ; in 1870 he insisted on the effects of overwork and strain on the heart and vessels—a subject which he afterwards much elaborated. In 1871 he brought out an epoch-making work "The Use of the Ophthalmoscope in Diseases of the Nervous System and of the Kidneys and also in certain General Disorders," thus for the first time providing a really wide and comprehensive review of the application of this instrument of precision as a means of diagnosis in clinical work. This monograph appeared in the year of the death of the original inventor, Charles Babbage (1792–1871), of the ophthalmoscope ; the practical use of which, and of Helmholtz's later modification, although suggested by Sir Spencer Wells and Dr. J. W. Ogle, was largely due to Allbutt and

Hughlings Jackson, to whom Allbutt dedicated this book. In 1873 he read a paper on the effect of exercise on the bodily temperature before the Royal Society, being elected a Fellow in 1880, subsequently serving on the Council for two sessions and as Vice-President.

In 1889 he left Leeds for London and the duties of a Commissionership in Lunacy, and for three years enjoyed a less exacting life, thus obtaining a useful but a short interlude before the final and most distinguished period of his life. In 1892 he was offered and, after first declining, accepted the Regius Professorship of Physic in the University of Cambridge, vacant by the death of Sir George Paget (1809–1902). His selection was a departure from the usual custom of appointing a local physician to the Chair, and, though arousing some temporary opposition, was a most wise choice, largely due, I believe, to the late Sir Michael Foster. It is noteworthy that Sir William Osler's appointment as Regius Professor of Medicine at the sister University, which was a similar break with procedure and an even more striking introduction of fresh blood, was attended by the same success. Allbutt now had more opportunity of exerting an influence over general and educational problems in medicine; in the numerous addresses which he was called on to give he consistently pleaded for a sound general education as the basis on which medical studies should be engrafted, and held that Universities should provide a liberal education and not deal with the technical details of any art or trade, or compete with medical schools. Even before this, in his address on medicine at the Glasgow meeting of the British Medical Association (1888), he had seized the opportunity to advocate a broader outlook on medicine by encouraging the study of comparative medicine and pathology, and after returning often to this thesis had the gratification of seeing an Institute for this branch of research established in Cambridge, and was appropriately the first President of the Section of Comparative Medicine at the Royal Society of Medicine in 1923–4. He took an active part in medicine in London and elsewhere, serving on Departmental Committees on Trade Diseases and National Insurance, and was one of the original members of the Medical Research Committee (later Council) from 1914 to 1916. To the academic

status of the Regius Professor of Physic he thus added a recognised position of authority in the wider medical activities of the country.

As a writer he spared himself not at all, collecting and filing material from his ubiquitous reading and usually making four drafts of a paper before it went to the printer, as he describes in his *Notes on the Composition of Scientific Papers* (1904), which is especially useful for those constructing theses for the Cambridge medical degrees, and is deservedly in a third edition (1923). But his criticism of his own phrasing did not cease with the manuscript and, indeed, was abundantly manifest on the printer's pulls. His style was attractive in its refreshing difference from the ordinary run of medical writing and in the use of good old words no longer in common vogue. With his broad outlook he saw both sides of the shield and impartially balanced alternatives before forming his conclusions. As the editor of the *System of Medicine*, in eight volumes (1896–1899), the lineal descendant of Russell Reynolds' *System* in five volumes (1866–1879), he carried through a stupendous work in a very short time, part of which indeed he was away giving the Lane Lectures (1896) on "Diseases of the Heart" in San Francisco. The planning of the *System*, with its insistence on broad principles, the selection of writers and the unavoidable alterations and delays connected therewith were wonderfully surmounted, and the *System* accordingly represented British Medicine at its high-water mark. Fifteen articles appeared under his own signature, and he did much in supplementing, sometimes indeed largely rewriting, those of his contributors, for he had a high standard of English prose and the correct use of words.

His principal articles were on diseases of the heart, stomach and neurasthenia, but his wide range of knowledge was shown by articles on subjects so far apart from these as adiposis dolorosa, opium and other forms of poisoning, mountain sickness, senile paraplegia, and tuberculous glands in the neck. The success of his efforts called for a second edition, in which he largely rewrote and expanded his previous articles and added a new one on "Ancient Medicine." He was indefatigable in keeping his contributions up to the level of contemporary medicine, and as is shown in his great work,

Diseases of the Arteries, including Angina Pectoris, in two volumes (1915, pp. 534 and 559), which brought together his mature conclusions on hyperpiesia, on which he had written since 1895; on angina pectoris, the aortic origin of which he had advocated from 1894, and on arterial blood pressure; but even then he did not lose touch with the subject, for he left behind him a book of some 100 pages, *Arteriosclerosis: A Summary View*, containing references to papers published this year; this he was most anxious to finish, for he knew that his time was running out, and he succeeded, but he never saw the proofs. In his classical *Greek Medicine in Rome* (1921, pp. 633) he greatly expanded his FitzPatrick Lectures at this College (1909–1910) and added some historical essays. The more general interest now taken in this country in medical history is largely due to the encouragement and lead given by Sir Norman Moore and by the two Regius Professors. The two latter were alike in many respects, and while keeping a vigilant watch on the progress of medicine, popularised knowledge of past, especially of Greek, medicine.

At this College Allbutt became a Member in 1878, the same year as the late Sir William Osler, and, being over forty years of age, was excused part of the examination. Becoming a Fellow in 1883, he gave the Goulstonian Lectures in 1884 on "Visceral Neuroses," in which he held up to ridicule the vagaries of gynæcologists then much concerned with uterine displacements, and thus described the patient: "She is entangled in the net of the gynæcologist, who finds her uterus, like her nose, a little on one side, or again like that organ is running a little, or it is as flabby as her biceps, so that the unhappy viscus is impaled on a stem, or perched on a prop, or is painted with carbolic acid every week in the year except during the long vacation when the gynæcologist is grouse shooting, or salmon catching, or leading the fashion in the Upper Engadine." He delivered the Harveian oration on "Science and Mediæval Thought" in 1901, and the FitzPatrick Lectures on "Greek Medicine in Rome" in 1909 and 1910. He served on the Council (1905–6), as an Examiner (1899), and as Censor (1906–7), and in 1921 was awarded the Moxon Medal. At his last appearance here on 5 May, 1924, at Professor K. F.

Wenckebach's lecture confirming his view of the aortic origin of angina pectoris, he spoke with the vigour and clearness that many a man a third of his age might envy.

Until the end Allbutt remained young in mind, in full sympathy with every modern movement that was wholesome and good, and entirely free from the reactionary attitude that so often comes with passing years; this record of long unimpaired mental activity was no doubt connected with his sustained physical vigour and health. Of late years he had become deaf, an infliction which he bore most patiently. Like his friend Sir Hermann Weber, to whose *Means for the Prolongation of Life* (fifth edition 1919) he wrote a charming introduction, he was a keen Alpine climber long after what would for other people be an unusual age, was always a great walker, and had visited the English lakes nearly every year since 1851. He thus was able to make first-hand observations on mountain sickness, which at one time he ascribed to cardiac dilatation. With hair that went white early, and his fresh complexion, Allbutt was always quietly but attractively dressed, and suggested the ambassador rather than the conventional professor or the scholar. Handsome and aristocratic in appearance, and with a friendly and gracious courtesy of manner, he was most approachable. He was a great gentleman, with a wonderful charity that never gave expression to personal dislike, but when necessary he fearlessly condemned the wrong, and his independent and outspoken opinion, therefore, carried additional weight. His severe criticism of gynæcological practice forty years ago, and his stern disapproval of the practice of psycho-analysis in 1920, are examples in point. In his St. Louis address in 1904 on "The Historical Relations of Medicine and Surgery to the end of the Sixteenth Century" he insisted on the disadvantage of the present artificial separation between medicine and surgery.

When in Leeds he was on friendly terms with George Eliot, who described him as a "good, clever, graceful man," and there is good reason to believe that he was the prototype of Tertius Lydgate in George Eliot's *Middlemarch* (1871). Allbutt, when taxed, never denied it, but the portrait was not exact, and indeed the late

Oscar Browning in his *Memoirs of Sixty Years at Eton, Cambridge and Elsewhere*, says that he was in some measure George Eliot's model for this character.

Honours, entirely unsought, were of course showered upon him. Though sounded for a knighthood before he came to Cambridge, it was not until he had been Regius Professor for fifteen years that he was created K.C.B. (Civil) in 1907. In 1920 he was, with universal approval, made a Privy Councillor. His honorary degrees and memberships of learned societies, and medals are too numerous to record, but his modesty in acknowledging them was a lesson how to bear the trials of success. A great figure of whom this College may justly be proud has passed beyond the veil. In some respects the world is now better than he found it. His labours and influence have played no small part in this change, and in medical education, and the profession for which he zealously laboured has lost a leader the like of whom they can hardly expect to see again.

JOSEPH ARDERNE ORMEROD.

The College sustained a grievous loss by the death, after a few days' illness necessitating operation for a perforated duodenal ulcer, on 5 March, 1925, of its wise, efficient, and friendly Registrar, J. A. Ormerod. He had been ill during the second half of last year, but had apparently made a good recovery, and, though saddened by the death of his wife two months ago, was at the College as recently as 27 February.

Born on 7 April, 1848, at Starston, Norfolk, he was the second son of the Venerable T. J. Ormerod, Archdeacon of Suffolk and Rector of Redenhall with Harleston, Norfolk, and came of an old and distinguished Lancastrian family. His grandfather, George Ormerod, D.C.L., F.R.S., of Tyldesley, co. Lancaster, and of Sedbury Park, Gloucestershire, author of *The History of the County Palatine and the City of Chester* (1819), in three volumes, and of *Parentalia* (the genealogical memoirs of his ancestors, 1851, described on the title page as "not published"), married in 1808, Sarah, eldest daughter of John Latham, M.D., F.R.S., President of this College

(1813–1819), and father of Peter Mere Latham. John Latham's mother was a descendant of the ancient family of Arderne of Cheshire, but there does not appear, appropriate as it would seem, to be any trustworthy evidence that John Arderne (1307–1380 ?), the first great surgeon in this country, though a layman, was an ancestor of our Registrar. Four of George Ormerod's seven sons and three daughters are noticed in the *Dictionary of National Biography*—George Wareing Ormerod was a well-known geologist ; William Piers Ormerod, anatomist, surgeon, and sanitarian, and Edward Latham Ormerod, who like his nephew was demonstrator of morbid anatomy, received their medical education at St. Bartholomew's Hospital. The youngest of the family, Eleanor Anne Ormerod, an economic entomologist, was the first woman to receive the honorary LL.D. of Edinburgh on 14 April, 1900 ; her autobiography and letters were edited by Professor Robert Wallace (1904). Dr. J. A. Ormerod's third son, Henry Arderne Ormerod, M.C., is Professor of Greek in the University of Leeds, and author of *Piracy in the Ancient World* (1924). One of his daughters is the wife of J. B. Christopherson, C.B.E.

Following the family tradition Ormerod went in August, 1862, to Rugby, and left with an exhibition to go up to Oxford in 1867 as a classical scholar of Corpus, where he was placed in the first class in classical moderations (1869), in the second class in *literis humanioribus* (1870), and, after deciding on our profession, in the first class in natural science (1871) ; in addition he won the Chancellor's prize for Latin verse (1869) for " Exercitus Indo-Britannicus ex Abyssinia Redux," and a Fellowship at Jesus College (1871). In October, 1872, he entered the Medical School of St. Bartholomew's Hospital, and took the B.M. Oxford in 1875, proceeding to the D.M. in 1882 with a thesis " On Epilepsy in Its Relation to Ear Disease." After being house surgeon for a few months (October to December, 1876) he was house physician for a year (1877–78) to our Senior Fellow and past President, Sir William Church, held various teaching appointments in the Medical School, and was Medical Registrar and Demonstrator of Morbid Anatomy (1887–1893). At that time the waiting list on the medical side was a long one : at one period there were 20 aspirants

and there was a block, as indeed was shown by the late Sir Lauder Brunton's twenty years' service in the out-patient department. Ormerod was therefore 45 years of age when he was elected assistant physician in 1893 ; in 1904 he became physician, and in 1913 retired under the age limit of 65 and was elected consulting physician. He was also physician to out-patients (1878) and physician (1888–93) to the City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, where he took an interest in laryngology, and assistant physician (1880), physician (1900), and consulting physician (1913) to the National Hospital for the Paralysed and Epileptic, Queen Square, where in 1901, as Honorary Secretary of the Medical Staff, he was their spokesman at the independent court of inquiry, presided over by Sir Edward Fry, to settle the dispute between the Medical Staff and the Board of Management ; in this he proved a most skilful advocate and won the day for his colleagues. During the war he was physician to King George's Hospital, Stamford Street.

His professional activities were specially directed to nervous diseases, which, indeed, then attracted the ablest of the younger physicians ; in 1892 his *Diseases of the Nervous System* appeared, and his reputation among his peers was signalised by his Presidency (1910–11) of the Section of Neurology of the Royal Society of Medicine, where, in his introductory address on " Two Theories of Hysteria," he discussed with a characteristically open mind the views of Pierre Janet and of Breuer and Freud. He contributed many papers to *Brain*, *St. Bartholomew's Hospital Reports*, *The Transactions of the Pathological Society*, and articles on cerebro-spinal fever, tabes dorsalis, and hysteria to both editions of the *System of Medicine*, and on diseases of the spinal cord to Allchin's *Textbook of Medicine*.

At this College, with which the last sixteen years of his life were so inseparably connected, he became a Member in 1877, a Fellow in 1885, delivered the Harveian Oration in 1908 on " Heredity in Relation to Disease," and the Lumleian Lectures in 1914 on " Some Modern Theories concerning Hysteria " ; he was appointed Assistant Registrar in 1908, and a year later succeeded the late Dr. Edward Liveing as Registrar ; he also served on the

Council (1903–05) and as Examiner for the Conjoint Board (1907–08). Taking up the heavy duties of Registrar in his 61st year, he never spared himself and had a far-seeing eye both as regards the past procedure and the future welfare of the College ; his orderly mind, business habits, and knowledge of all the laws and traditions of the College made him an admirable curator of its conduct. The Registrar's duties demand much routine labour which is hidden from the public eye, and this, no doubt, was welcome to one with Ormerod's temperament. Wise in experience, he was suspicious of change unless convinced that it was undoubtedly safe and in the best interests of the College. In recent years there have been considerable alterations in the statutes, bye-laws and regulations of the College, and though sometimes critical of their value during the stage of discussion preceding their adoption, he always carried them out promptly and cheerfully. Properly zealous of any encroachment on the rights of the College, he had a keen sense of the legal aspects of such problems, however complicated, and manfully maintained our ground. His strength of character was, indeed, often unsuspected by strangers, for his habitual courtesy and unselfishness might at the outset suggest a somewhat diffident and yielding opponent ; but further experience proved that he was a determined though unexpected fighter to the last. Retiring and reticent, he was the confident of many men's secrets, but never paraded his personal affairs or manœuvred for his own advantage. In addition to these sterling qualities, a scholarly mind and tastes specially fitted this upright and kindly gentleman for the post of Registrar to the College which he loved and served so devotedly.

In conclusion, let me express my deep appreciation to the College for this high honour and for ever loyal support, to the Censors' Board and College Officers for their courteous assistance, more specially to the Treasurer, who, in addition to his own duties, discharged with the greatest devotion and success those of Registrar during Dr. Ormerod's prolonged illness last year and again since our recent loss, and to Mr. H. M. Barlow for constant and efficient help.

I have now had the great honour of being your President for three years; owing to my appointment by the Crown as Regius Professor of Physic at Cambridge, I shall, after next September, be resident there instead of in London, though outstanding engagements of an official character will bring me to London. What I should say to the Comitia in these circumstances I have carefully considered. Those of the authorities at Cambridge whom I have consulted do not see any objection to my continuing in this proud position if it seems to you to be desirable for the good of the College, as they believe that the two offices are compatible. I must leave myself in your hands and shall accept your ruling with all content.



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Some Personal Links between The Royal Colleges of Physicians of Ireland and London.



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BY

SIR HUMPHRY ROLLESTON, BART., K.C.B., M.D., HON. D.C.L., L.L.D., D.Sc., F.R.C.P.I.,

President of the Royal College of Physicians of London.

With the Writer's Compliments.

Some Personal Links Between The Royal Colleges of Physicians of Ireland and London

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School of Hygiene &
LIBRARY

SOME PERSONAL LINKS BETWEEN THE ROYAL COLLEGES OF PHYSICIANS OF IRELAND AND LONDON.*

By Sir Humphry Rolleston, Bart., K.C.B., M.D., Hon. D.C.L., LL.D., D.Sc., F.R.C.P.I., President of the Royal College of Physicians of London.

THE high honour of being asked to address you by your President is a tribute of friendship to the Sister College, and another of the pleasant inter-relations, official and otherwise, that have long existed. Thus the two Colleges are associated in their ideals, their pharmacopœias were on similar lines, your Presidents have been on the Committees of our decennial editions of the *Nomenclature of Diseases*, and further, during the eighty years from 1836 to 1916, twenty-eight of our Fellows, including the Presidents, Sir Thomas Watson, Sir Andrew Clark, Sir William Jenner, Sir Richard Douglas Powell, Sir Thomas Barlow, and Sir Norman Moore, a devoted son of Ireland and a high authority on its literature, have, by your courtesy, been made honorary Fellows of the Royal College of Physicians in Ireland. Last year saw your celebration of the 300th anniversary of the birth of your founder, John Stearne, on 26th November, and also the 400th anniversary of the death, on 20th October, of

*An Address delivered at the Royal College of Physicians of Ireland on the occasion of the conferring of the Honorary Fellowship upon Sir Humphry Rolleston, February 7, 1925.

Thomas Linacre, founder of the Royal College of Physicians of London. These two pious founders were, indeed, much alike; for they were both in the first instance profound scholars, who took Divinity and Physic as parts of the province of knowledge. There is a close resemblance between Stearne's epitaph, "Philosophus Medicus Summusque Theologus Idem,"[1] and Erasmus' description, obviously meant for Linacre, in the *Praise of Folly*, of "an old Sophister that was a Grecian, a Latinist, a Mathematician, a Philosopher, a Physician, and all to the greatest perfection. . . ." So alike, too, are the two Sister Colleges that their festivals clash; thus St. Luke's Day finds them both engaged in their annual celebrations, when, though in each other's thoughts, we would wish to be in closer conversation. Younger in years, your College has shewn us the way; for, on St. Luke's Day, 1924, a lady doctor, Mrs. Thorn Hearn, was elected to the Fellowship, and after the Medical Act of 1876 you were early in the field in admitting women to the diploma of Licentiate, namely, in 1877, an example which the London College did not follow for thirty-two years, when, in 1909, the first woman to be admitted to any of our qualifications became a Member.

There are some individual links between the two Colleges which it will be pleasant to recall. When the Royal College of Physicians of Ireland was first incorporated by charter of Charles II on 8th August, 1667, as a result of the advocacy of John Stearne (1624-1669), who was nominated President for life, there were thirteen other original Fellows, among whom Sir William Petty and Robert Waller (22nd December, 1662) were Fellows, Thomas Margetson, a candidate (5th April, 1658), and Edward Dynham, much the senior in years of the four, an extra-licentiate (5th May, 1640), of the London College. Margetson, a Yorkshireman by birth and a student of Trinity College, Dublin, by choice (1647), was, after the fashion of the day, a wandering student, and thus collected degrees from the Universities of Montpellier (10th March, 1656-7), Orange (18th March, 1656-7), and Oxford (14th January, 1657-8). He appears to have succeeded Stearne as President, and to have held office until his death, 1674. Waller was elected President on 22nd October, 1677, his

immediate predecessor having been Charles Willoughby,[2] who followed the example of Sir William Petty in paying attention to "Political Arithmetic." The original association of the London and Irish Colleges was, therefore, commendably close.



Sir William Petty.

Sir William Petty.—The second name on the list of the original Fellows is that of Sir William Petty (1623-1687), who was described by Sir John Banks* as not only the most remarkable man ever connected with the College, but also as one of the most extraordinary men who ever played a part on the stage of public life in Ireland, and by Sir William Osler† as one born out of due time, and suggesting by his practical capacity and energy the twentieth rather than the seventeenth century. Indeed, he was an Admirable Crichton,

* Banks T., *Brit. Med. Journ.*, 1887, ii, 281.
† Osler *Proc. Roy. Soc. Med.*, 1912, vi (Hist. Med. Sect.), 2.

and therefore a fit link between the two Royal Colleges of Physicians of Ireland and London. After adventures at sea and service in the Royal Navy, he studied mathematics in Paris and Holland and medicine at Leyden (1644). In 1648 he brought out a pamphlet on double writing[3] in which he says that God unexpectedly put the idea of it into his head, and explains at some length why he took out a patent for a method which was apparently the basis successively of the later pantograph and the eidograph for making rapidly and clearly an enlarged, exact, or reduced copy of writing, a plane figure, or sculpture. The price for the secret and the instruments came to seven shillings and sixpence.

He then went to Oxford, where he was Fellow and Vice-Principal (1651) of Brasenose, being intruded in the place of some "loyal person," Doctor of Medicine (1649), and an active member of the coterie which probably met in his rooms before doing so in Wadham and eventually giving birth to the Royal Society; on 1st January, 1650-51, he was elected and for a brief period was Professor of Anatomy in the University, after having been deputy in this capacity for some time to the Regius Professor of Medicine, Dr. (later Sir) Thomas Clayton, who had succeeded his father in the occupation of these two professorships. Clayton professedly resigned the Chair of Anatomy on behalf of Petty, but he can hardly be regarded as well-fitted for the post, as he is described as "being possessed of a timorous and effeminate humour; he could never endure the sight of a mangled or bloody body." Petty came into the public eye for the resuscitation of Ann Green, who was imperfectly hanged for murder, and shared with his contemporary, Sydenham, enthusiasm for the new developments of medicine, which to the orthodox followers of Aristotle and Galen, smacked sadly of quackery. On 7th February of the same year (1650-1651), through John Graunt's good offices, Petty became Professor of Musie at Gresham College, London, but in 1652 he was appointed Physician-General to the Army in Ireland, and soon after landing at Waterford on 10th September, 1652, showed his administrative ability by re-organising its medical service and by effecting great economies in the expenses incurred by the Apothecary-General of the Army.

His activities in medicine were incidental, so to speak, to his wide excursions over the sphere of human knowledge. In his tract, "The Advice of W. P. to Mr. Samuel Hartlib on the advancement of some particular Parts of Learning," London, 1647, he advocated a *Nosocomium Academicum*, or model hospital, for the benefit of the scientific practitioner as well as for the cure of patients, which the late Sir William Osler regarded as the first suggestion of a research hospital. In 1655 he was elected a Fellow of the Royal College of Physicians of London, but was not admitted until his return from Ireland in 1658, when he became member for West Looe, in Cornwall, in the Parliament summoned by Richard Cromwell. At the inauguration by charter of the Royal Society in 1662 he was one of the original Fellows, and was knighted on that occasion. In the same year John Graunt, the shopkeeper and Captain of the Trained Bands in London, brought out, in collaboration with Petty, "Natural and Political Observations . . . made upon the Bills of Mortality of the City of London," which, for the first time in this country, dealt with the science of vital statistics, and formed the basis of what Petty subsequently termed "Political Arithmetic." After Graunt's death, a fifth and enlarged edition was published in 1676 by Petty, whose observations on the Dublin Bills of Mortality appeared in 1683.

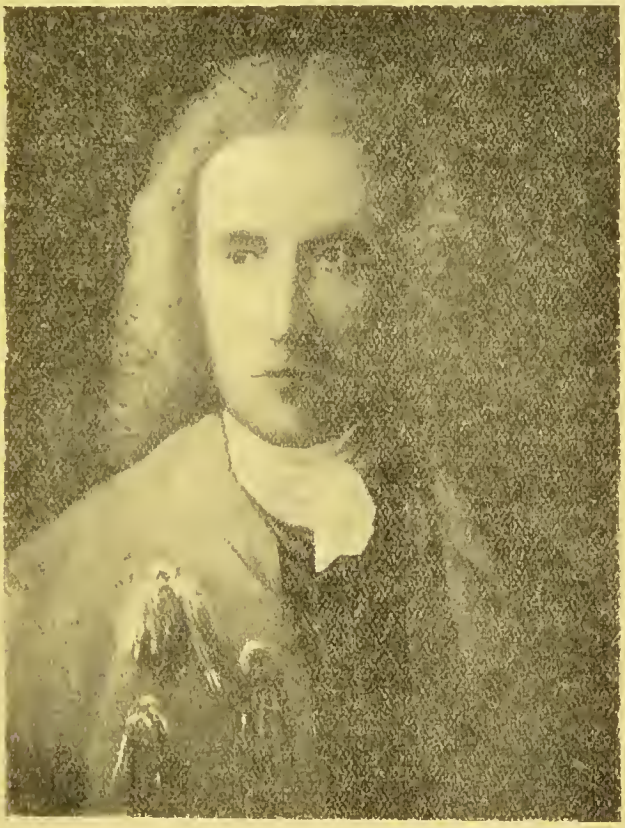
When in Ireland as Physician-General to the Army, Petty undertook for the Commonwealth the formidable task of surveying the country in order to distribute the lands, and accomplished this labour, which the Surveyor-General, Benjamin Worsley, also a medical man, estimated would take thirteen years, most successfully in as many months as the result of his administrative and mathematical abilities. The experience of this famous "Down Survey," so-called because it was measured *down* on maps, would seem to have played a part in initiating his numerous works on "Political Arithmetic," as he called what is now known as political economy or vital statistics; among these were his "Treatise on Taxes and Contributions" (1662), the financial brochure, "Verbum Sapienti," and "The Political Anatomy of Ireland," which, though not published until 1691, had been

in circulation in manuscript since 1665 and 1672 respectively. By his papers in the *Philosophical Transactions of the Royal Society* on mechanical inventions, such as a double-bottomed or -keeled ship to cross St. George's Channel, thus anticipating the Calais-Douvre of the XIXth Century, an engine in a vessel "to give her fresh way at sea in a calm," and "a wheel for one to run races in," an early conception of the velocipede or cycle, Petty's catholic ability reminds us of Leonardo da Vinci. In his diary, John Evelyn drew a picture of Petty, John Wilkins, and Robert Hooke engrossed in the discussion of the rigging of ships and other physical inventions at the Durdans, Epsom, in 1665, while the plague was devastating London, and the Royal Society had ceased to meet. His versatility was shewn in a translation of the Psalms into Latin, his good Latin epigrams and poor English verse, his contemplated theologico-metaphysical treatise, "The Scale of Creatures," part of which was to be reserved for the Irish farmers, and entitled "The Scale of Devils," and the fifty-three chests of his papers, which he described as "so many monuments of my labours and misfortunes."

In 1667 he refused a peerage conditional on a round contribution to the impoverished Royal Exchequer, and expressed himself plainly about such honours, saying: "I had rather be a copper farthing of intrinsic value than a brass half-crown how gandily so-ever it be stamped and guilded. I might have had those things a long time ago, for a third part of what your Lordship propounds." But after his death (1687) his widow was created Baroness Shelburne by James II on 31st December, 1688, and his "ugly but sagacious"[4] daughter Anne married Thomas Fitzmaurice, first Earl of Kerry, and thus Petty became an ancestor of the present Lansdowne family.

In the middle of the eighteenth century a rather remarkable event occurred, for between 1761 and 1764 two Fellows of King and Queen's College of Physicians in Ireland, who had also been Presidents, and about 1757 a candidate of the same College, migrated to London, and all of them held posts of honourable responsibility in that Royal College of Physicians. The causes and impulses responsible for this move were, as

will incidentally be mentioned later, different, so that the exodus was a curious coincidence. These three physicians, who perhaps may be regarded as a counterpoise to the four representatives of the London College among the original Fellows of your College, were Sir Edward Barry (1698-1776),[5] Dr. Anthony Relhan (1715-1776), and Dr. Thomas Brooke (1721-1781); possibly a glance at their careers may not be devoid of interest.



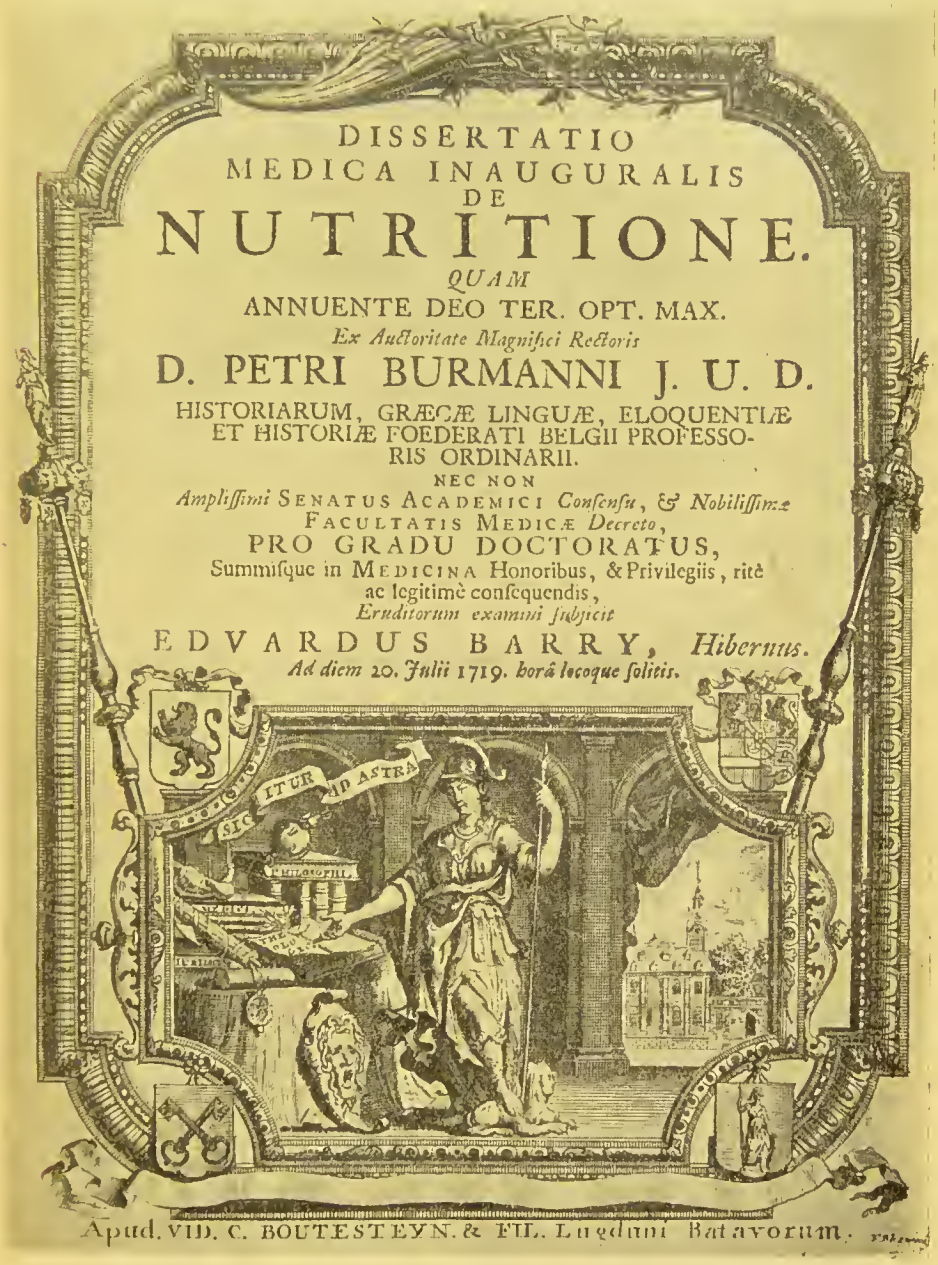
Sir Edward Barry, Bt., M.D. F.R.S.
(*From Dublin Quart. Journ. Med. Sc.* 1909, cxxviii, 442; Kindly lent by Dr. T. Percy C. Kirkpatrick.)

Edward Barry was much the oldest of the three, being born in Cork near the close (1698) of the previous century, but was only outlived by the younger of his two Irish colleagues (T. Brooke), and then but for five years. He was the second son, a position in the family sometimes considered to be specially advantageous. He does not

appear to have been an ascendant of the remarkable Inspector-General of the Army Medical Department, James Barry (1795-1865), a century later, who, after death, was discovered to be a woman, the motive for her conduct and choice of career being ascribed to affection for an army surgeon. Entering Trinity College, Dublin, in 1713, and becoming a scholar in 1716, Barry took the B.A. degree in the following year, and then studied at Leyden under the famous Hermann Boerhaave, whose inspiration admittedly dominated his medical life and writings. His graduation thesis, *De Nutritione*, at Leyden, bears the date 20 *julii*, 1719, *horâ locoque solitis*, and a dedication to D. Alan Baroni Middletown Magno Hiberniæ Cancellario, by Edvardus Barry Hibernus. There are copies of it—a quarto of nineteen pages—in the British Museum and in the Library of the Royal College of Physicians of London, and, as will be seen later, this thesis served as the motif of some of his later writings. He started practice in Cork, where his father, also Edward Barry, may be thought to have prepared the way, living in Orrery Quay until he moved to Dublin in 1739.

In the early and usually lean years that follow qualification he appears to have been in no way idle, for in addition to becoming the medical attendant, friend, and correspondent of the fifth Earl of Orrery, he published in Dublin, "A Treatise on a Consumption of the Lungs" (1726), to which further reference will be made, and between 1728 and 1740 contributed six short papers to "The Medical Essays and Observations published by a Society in Edinburgh," namely, "An Account of Malignant Lues Venerea communicated by Suction"; "A Mania from a callous Pia Mater"; "An Observation on bloody Urine caused by a Worm in the Bladder"; "An Ulcer in the Lungs piercing through the Diaphragm into the Liver" (hepatic abscess opening into the right pleura); "The good success of opposite caustics, and of a strong alterative mercurial medicine," in what appear to have been syphilitic testes; the opposite caustics were oil of vitriol and lapis infernalis, employed alternately (lapis infernalis was nitrate of silver, and lapis infernalis alkalinus caustic potash, which was the one presumably used); and on "The Bladder become schirrous from a

singular cause." He prepared the skeleton of William Clark, who died at the age of sixty-one, having suffered since the age of eighteen years from progressive myositis



ENGRAVED TITLE-PAGE OF SIR EDWARD BARRY'S INAUGURAL THESIS OF LEYDEN.

ossificans. The case, with Barry's account and drawings[6] of the skeleton, was briefly communicated by Reverend Dean (John) Copping, F.R.S., to the Philosophical Trans-

actions of the Royal Society (1739, xli, 819). Barry wrote: "It is as difficult to give a particular and exact Description of this *Momentum mori* as of Calypso's Grotto." . . . "A sharp horn, like a cock's spur, grew out of his heal every year." Copping adds: "I am promised very soon a complete History of his Life, and I shall endeavour to transmit William Clark's Name to future Ages." Apparently no further report was ever published, but in a letter dated 16th December, 1737, and reproduced by Dr. Kirkpatrick,[7] the following graphic description is given by Barry: "His skeleton makes a most irregular figure; it is as difficult to describe it as the figure of the most irregular rock: he may not improperly be said to have but one bone in his Body, but branched out into many preternatural and irregular forms—I design to send an account of it to the Royal Society with the History of his Life and some observations on it." He had previously (1733) been elected a Fellow of the Royal Society, possibly in virtue of his work on consumption, and perhaps by the judicious cultivation of those with influence in that august body.

His work, "A Treatise on a Consumption of the Lungs, with a previous account of Nutrition, and of the structure and use of the Lungs" (1726), was dedicated in the contemporary flowery diction to Lord Carteret, Baron of Hawnes and Lord Lieutenant of Ireland, and passed into a second edition in the following year, being published in London. Like Gaul, this book is divided into three parts; the first is the much expanded substance of his thesis on nutrition, to which "a languid consumptive habit of body probably fixed my attention more particularly at that time," thus suggesting that, like so many eminent men such as Hans Sloane and Andrew Clark, to mention two Presidents of the London College, Barry was tubercular, though no further evidence of this appeared in later life: then follows a description of the structure and use of the lungs, and lastly the causes, progress, and method of cure are considered; he insists that no rational account of this disease can be given without such an orderly procedure, for a consumption in general must always proceed from a defect of such causes as constitute nutrition. The description of the physiology of digestion

and absorption states *inter alia* : that there is no acid in the stomach, and that "the number of years to which all men may attain will be in reciprocal rates to the velocity of their pulses," thus a pulse of sixty in a temperate person corresponds to a life of three score years and ten, whereas when intemperance raises the pulse rate to seventy-five, life should end at fifty-six, the age corresponding to the total number of cardiac systoles, 220,903,200, in the temperate man who attains the biblical age. Much of this humoral pathology is again reproduced in another work published in London thirty-three years later with the widely inclusive title, "A Treatise on the three different Digestions and Discharges of the human Body and the Diseases of their principal Organs" (1759). This volume of 434 pages, on the title page of which he is described as Physician-General to His Majesty's Army in Ireland, passed into a second edition of 384 pages in 1763. The first 200 odd pages deal with the first, second, and third digestions and discharges of the body ; the second digestion is in the blood, and prepares the healthy serum for the third digestion, in which it repairs the solids and fluids of the body. The diseases of "the second discharge" include the formation of calculi and diabetes. Then there is a chapter of 20 pages on nutrition, much shorter than that of 100 pages on this subject in the earlier "Treatise on a Consumption of the Lungs." The descriptions of the animal spirits and nervous diseases are followed by a disquisition on the gout, and then the structure and uses of the lungs and their diseases are considered. Thus, though differently worded and arranged, the two treatises have a close resemblance.

Late in 1739 Barry moved from Cork to the larger sphere of practice in Dublin, and rapidly attained success, possibly through the good offices of the fifth Earl of Orrery, who, however, cautiously warned and advised him about the difficulties that might await him. On 18th April, 1745, he was appointed Physician-General to the Forces in Ireland, and in the following October was elected M.P. for Charleville, Co. Cork, and sat in this capacity until 1760. King and Queen's College of Physicians made him President in 1749, and it may be noted that during his life his son Nathaniel was also President of the College (1767, 1772, and 1775),

and further that Nathaniel's step-mother's grandfather, Dr. Ralph Howard, the first Fellow elected after the fourteen original Fellows mentioned in the charter, was also President in 1695, 1701, and 1707. This must be a unique record in the history of any Royal College of Physicians. Certainly in the London College there has not been any such example of hereditary succession to the Presidential Chair; though in 1923 there was a coincidence very different in its bearing, but so remarkable as perhaps to be worth mentioning, namely, the death in the same year of two Fellows, father and son, Drs. P. W. and Arthur Latham.

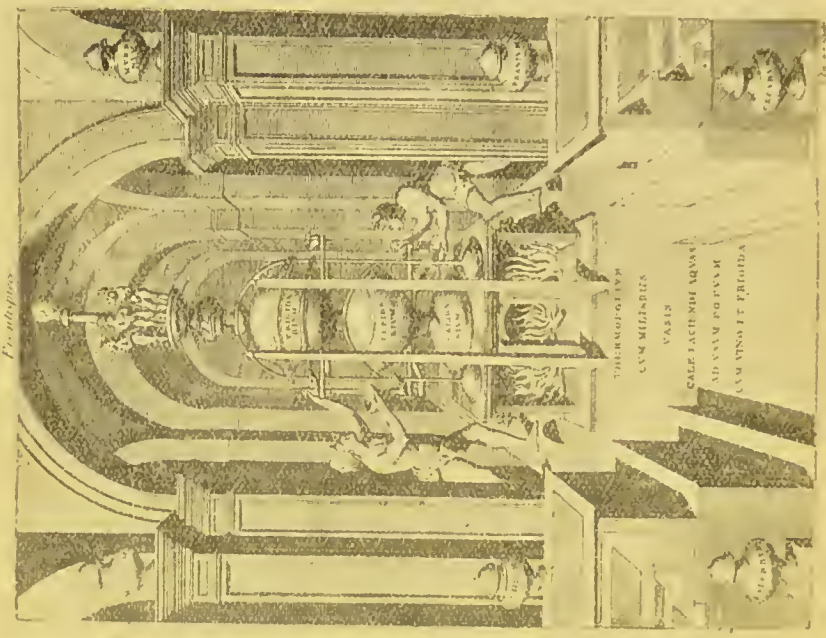
In 1754 Barry became Regius Professor of Physic in the University of Dublin, and thus, in a comparatively few years, had carried everything before him. The brilliancy of his Dublin career may, perhaps, have been responsible for his moving in 1761 to London, where, having previously (1759) been incorporated D.M. of Oxford, he was elected a Fellow of the Royal College of Physicians in 1762 and Censor in 1763; such a rapid progress would now be impossible, but, it must be remembered, at that date the roll of the Fellows was under fifty, and only about thirty-five were resident in London. Barry settled in George Street, Hanover Square. To what extent he was successful in practice it is difficult to say, but Dr. Samuel Johnson's statement that "he brought his reputation with him, but had not great success," is hardly surprising, for sixty-three years of age is rather a serious handicap in the race for practice in new surroundings. This conclusion is to some extent borne out by Barry's last move, about 1769, to Bath, of which, as long before as 1737, he had written: "'Tis a peaceful Retreat that I should think myself happy in. I'm satisfied it would add many years to my life."

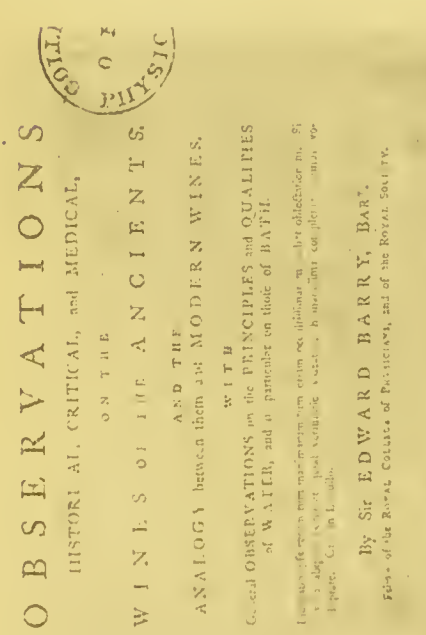
Barry's last and most important literary work, justifying the dictum that "the latest fruit is the ripest," appeared in 1775, just after he had been created a baronet, and the year before his death on 29th March, 1776. His "Observations, Historical, Critical and Medical on the Wines of the Ancients and the Analogy between them and Modern Wines, with General Observations on the Principles and Qualities of Water, and in particular those of Bath," is a handsome

quarto of 479 pages dedicated to his son Nathaniel. The copy in the Library of his London College was "From the Author." In it the subject of wines was for the first time in this country treated from a scientific aspect, and half a century later Dr. Alexander Henderson made ample use of its material in his *History of Ancient and Modern Wines* (1824). Barry, who naturally introduced many classical quotations into his account of the wines of the Greeks and Romans, advocated vineyards and wine making in the south of England and in Ireland, just as formerly this industry was practised, especially in the neighbourhood of abbeys and monasteries. In the chapter on the waters of Bath, the relation of the contained iron and sulphur is discussed, and the lessons learnt in the long past from Boerhaave's private lectures are acknowledged with due respect; thus "Boerhaave is the first who has observed, and clearly proved, that there is in iron an inherent Principle of a distinct nature from the other parts of iron." Barry, apparently following the same line of thought, wrote: "Do not the Principles of sulphur, with which the Bath waters are impregnated, consist of the purest, volatile, oleaginous phlogiston, lightly united with the volatile acid of spirit of sulphur?" This rather cryptic chemistry may possibly be imagined to contain a vague suspicion of the existence of the electrons and atoms, and radio-activity of the present day.

Anthony Relhan must surely have been a man of singular charm or considerable force of character to have made such a successful recovery after the false step which preceded and determined his exit from his native Dublin, where he had been President of King and Queen's College of Physicians of Ireland in 1755, having previously (1749) been beaten by Dr. Henry Quin in the competition for the vacant Professorships of Physic. After his Presidency he raised a storm by prescribing James's fever powder, which, though eventually shewn to be useful, and in fact imitated by the Pulvis antimonialis of the British Pharmacopœia, was patented by the inventor, Dr. Robert James, with, it is said, a misleading specification. James, who was educated at St. John's College, Oxford, and an M.D. of Cambridge by Royal Warrant, was the lifelong friend of Dr. Samuel Johnson, the grandfather

of G. P. R. James, the novelist, and died in 1776, the same year as Relhan and Sir E. Barry. As a result of his unorthodoxy, the profession in Dublin refused to meet Relhan, who, thus finding himself shipwrecked, accordingly




OBSERVATIONS
HISTORICAL, CRITICAL, and MEDICAL,
ON THE
WINES OF THE ANCIENTS.
AND THE
ANALOGY between them and MODERN WINES.
WITH
General OBSERVATIONS on the PRINCIPLES and QUALITIES
of WATER, and in particular on those of BATH.
By Sir EDWARD BARRY, Bart.
Fellow of the Royal College of Physicians, and of the Royal Society.
LONDON,
Printed for T. CADELL, in the Strand. 1775.

FRONTISPIECE AND TITLE PAGE OF SIR EDWARD BARRY'S "OBSERVATIONS ON THE WINES OF THE ANCIENTS."

sought refuge in England, and on the advice of Dr. James, settled in 1759 in Brighton, or, as it was called, Brighthelmstone, a township of about 2,000 inhabitants, where a vacancy had arisen through the death of Dr. Richard Russell, "the apostle of sea-bathing, and one of the founders of the popularity of modern Brighton." Relhan, who was at once a success, wrote "A Short History of Brighthelmstone, its Air and its Waters" (1761), which appears to have been as popular as its author, for a fresh edition came out as late as 1829. After being incorporated M.D. at Cambridge in 1763, Relhan was elected a Fellow of the College of Physicians (1764), and in the same year published a tract, "Refutation of the Reflections (by D. Rust) against inoculation." His time was now divided between Brighton during the bathing season, and London, a custom not uncommon in the past, and followed later at Worthing by Thomas Young (1805-1820). He practised in Southampton Street, Covent Garden, and the College evidently forgave his sins, for he was Goulstonian lecturer in 1765, Censor in the same year, and again in 1771, and gave the Harveian Oration in 1770, in which he described the friendship of Linacre and Erasmus, and referred to Sydenham in the following terms :—"Quo tu sessos Sydenhame nos rapis. Tu talis es, qualis si nemo alius extiterat, æternam his ædibus gloriam comparavisses."

Dr. Thomas Brooke, born in 1721, was the son of Reverend Henry Brooke, and, Dr. Kirkpatrick tells me, was educated by Thomas Sheridan, schoolmaster and friend of Swift; entering Trinity College, Dublin, under Dr. Grattan as a pensioner, on 2nd December, 1737, he became a Scholar in 1740, B.A. in 1742, M.A. two years later, and, after a rather long interval, M.D. on 10th June, 1753. On St. Luke's Day, in the same year, he was a candidate at King and Queen's College of Physicians. Why and exactly when he migrated to England is not known, but on 21st October, 1757, he was elected physician to the Westminster Hospital, and held office until he resigned in 1764. Apparently he succeeded Dr. William Coxe, and was a contemporary of the fashionable and eccentric Sir Richard Jebb, who was physician there (1751-1762), and afterwards (1762-1769) to St. George's Hospital. After being incorporated D.M. at Oxford, he

became a candidate on 25th June, 1763, and a Fellow on 25th June, 1764, of the Royal College of Physicians of London, being Censor in 1766, 1767, and 1772. On 19th April, 1764, he was elected physician to St. Luke's Hospital, and retained this post until his death in August, 1781. His London residence was in Charles Street, St. James's Square. Apparently he did not make any contributions to literature, and there is comparatively little known about him.

I had hoped to find that our Member, Thomas FitzPatrick (1832-1900), in whose memory his widow, in 1901, endowed our FitzPatriek Lectures on the History of Medicine, was a link between us ; at first it appeared that this was so, for a Thomas FitzPatrick was elected a Fellow of your College in 1860, but your learned Registrar, to whom I am much indebted for most valuable help, tells me that there were two Thomas FitzPatricks, both M.D.'s of Dublin, at about the same time, and that your Fellow was not our benefactor. My mental state was for a time much like that of the visitor to an Oxford common room, who, after hospitality both for the body and the mind, summed up his impressions to the effect that he "now quite understood that the outcome of the matter in debate was that the Iliad was not written by Homer, but by another man of the same name."

References.

[1] Tentatively ascribed to his former pupil, "the learned Mr. Henry Dodwell," by T. W. Belcher (*Dublin Quart. Journ. Med. Sc.*, 1865, N.S. xxxix, 458). In Dr. T. P. C. Kirkpatrick's address delivered in the Royal College of Physicians of Ireland on the Three-hundredth Anniversary of the birth of John Stearne, M. & J.U.D., 26 November, 1924 (which reached me after this address was in galley proof), Stearne's Epitaph is unhesitatingly ascribed to Henry Dodwell.

[2] T. Percy C. Kirkpatrick, *Proc. Roy. Irish Acad.*, 1923, xxxvi, Sect. C., Pp. 239.

[3] "A Declaration concerning the newly invented Art of Double Writing, wherein are expressed the reasons of the authors proceedings in procuring a Privilege for the same, as also of the Time, Manner, and Price of the discovery of the said Art, and of the Instruments belonging thereunto. For the satisfaction of all that desire to be partakers of the great benefit of the same, before they adventure anything towards the reward. Whereunto is annexed a copie of an Ordinance of both Houses of Parliament, approving the feasibility

and great use of the said invention, and allowing a Priviledge to the Inventor, for the sole benefit thereof for 14 years, upon a penalty of one hundred pounds." London, 1648, Pp. 10.

The date of the Parliamentary Ordinance, given in the pamphlet as 6th March, 1647, is altered in ink to 6th April, 1648, in the George Thomason Collection of Ordinances in the British Museum.

[4] Sir William Petty, by Lord Edmond Fitzmaurice, p. 312, 1895.

[5] For a full account of Sir Edward Barry, from which I have borrowed freely, see Dr. T. Percy C. Kirkpatrick's Memoir, *Dublin Journ. Med. Sc.*, 1909, cxxviii, 442.

[6] Reproduced by the late F. E. Batten in his article on myositis ossificans progressiva in *System of Medicine* (Allbutt and Rolleston), 1910, vii, 12.

[7] Kirkpatrick, T. P. C. Report of Sir Patrick Dun's Library, presented to the Royal College of Physicians of Ireland on St. Luke's Day, 1919, p. 12.

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